

OCTOBER 1952

ARMY INFORMATION DIGEST

Seventh Army Deploys for Defense

Evolution of a Satellite Army

Men and Vehicles in Korea

Developing Field Equipment

Comeback from Combat

Air Force Training

Curriculum of Courage

Counterattack on Yellow Jack

Why Must We Be Informed?

Why Must We Inform Others?

United States Court of Military Appeals



ARMY INFORMATION DIGEST



ARMY INFORMATION DIGEST, an official Department of the Army publication, is published monthly under the supervision of the Commandant, Armed Forces Information School, Fort Slocum, New York, on behalf of the Chief of Information, Department of the Army. The DIGEST provides timely and authoritative information on the policies, plans and operations, including technical developments, of the Department of Defense, the Department of the Army, the other services and the reserve components. Unless otherwise indicated, material in the DIGEST may be reprinted provided credit is given to ARMY INFORMATION DIGEST and to the author.

Manuscripts on subjects of general interest to the Armed Forces are invited. Direct communication is authorized to: Editor, ARMY INFORMATION DIGEST, Fort Slocum, New York. Back issues, as available, may be obtained upon request.

The printing of this publication has been approved by the Director of the Bureau of the Budget, 21 May 1951.

DISTRIBUTION:

ACTIVE ARMY

Admin & Tech Svc Bd (1); AFF (75); AA Comd (5); MDW (29); A (26); CHQ (12); Div (16); Brig (3); Regt (4); Bn (2); Co. (1); FT (4); Sch (25) except USMA, C&GSC, AWC, AFIS; PMS&T (2); Dep (2); Hosp (15) except Gen Hosp (80); Pers Cen (3); POE (4); Ars (2); Engr Dist (1); Proc Dist (1); Mil Dist (2); Rct Dist (4); Rct Sta (1); Rct Sub Sta (1); Dspln Bks (5); Div Engr (1).
NG & ORC
Same as Active Army except one (1) to each unit.
(For explanation of distribution formula see SR 310-90-1.)

In This Issue:



SAVING SKILLS. Although the first week in October is officially set aside as National Employ the Physically Handicapped Week, actually every week finds the Army making use of partially disabled personnel. Even amputees and others seriously wounded have been retained in service when possible instead of being obliged to retire on a disability pension. The Commanding General, First Army, describes the diversified tasks being performed by the partially disabled in "Comeback from Combat."

IN THE RED ORBIT. The Communist capacity for infiltrating neighboring states, dominating their armies and using them as cat's-paws in international power plays is nowhere better demonstrated than in the Bulgarian Army. How the Bulgars, traditionally known as the Prussians of the Balkans, have been welded into a military force that serves the Soviet purposes is recounted in "Evolution of a Satellite Army."

POWER OF IDEAS. How Armed Forces programs for informing service personnel and the public dovetail into the national security is the theme of two articles—"Why Must We Be Informed?" by the former Director of Armed Forces Information and Education, and "Why Must We Inform Others?" by the Army Chief of Staff who is himself a former Chief of Information.

MECHANIZED MOBILITY. The proverbial nail, for want of which a battle was lost, now has its counterpart in the carburetors, spark plugs and transmission systems so essential to modern mechanized armies. Automotive testing by Army Field Forces Board No. 2 is described in "Developing Field Equipment" while the work of Ordnance Maintenance Companies is reported in "Men and Vehicles in Korea."

Subscriptions (\$1.75 per year to domestic or APO addresses; \$2.25 to other addresses) may be forwarded to Book Department, Armed Forces Information School, Fort Slocum, New York, or Superintendent of Documents, Government Printing Office, Washington 25, D. C.; single issues (price 15 cents) through Superintendent of Documents only.

☆ U. S. Government Printing Office : 1952

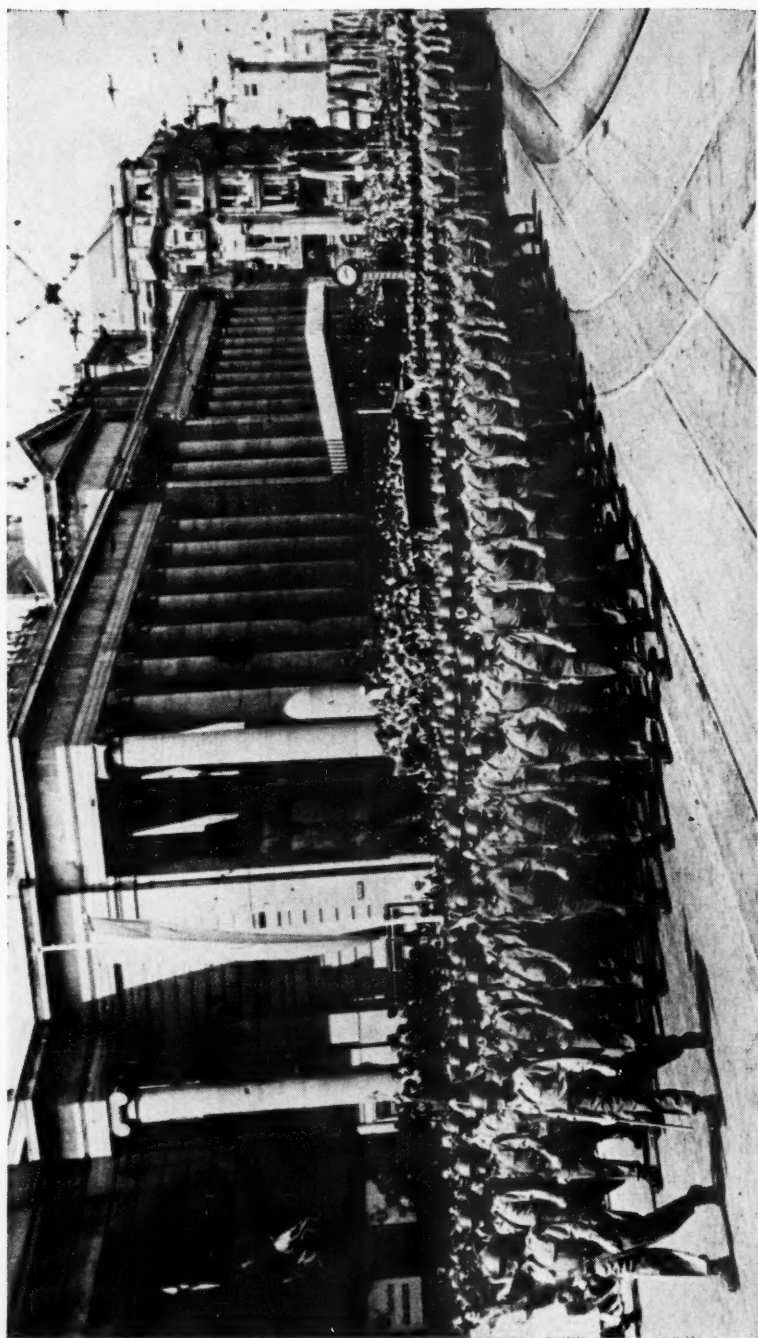
ARMY INFORMATION DIGEST

Vol. 7 No. 10

October 1952

CONTENTS

Seventh Army Deploys for Defense.....	3
Lieutenant Neil W. Mold, USA	
Comeback from Combat.....	7
Lieutenant General Willis D. Crittenger, USA	
The United States Court of Military Appeals.....	12
Chief Judge Robert E. Quinn	
Men and Vehicles in Korea.....	17
Private First Class Charles W. Voss, USA	
Why Must We Be Informed?.....	23
Major General John M. Devine, USA	
Why Must We Inform Others?.....	27
General J. Lawton Collins, USA	
Curriculum of Courage.....	31
The Evolution of a Satellite Army.....	36
Air Force Training.....	47
Lieutenant General Robert W. Harper, USAF	
Developing Field Equipment.....	55
Colonel William P. Withers, USA	
Counterattack on Yellow Jack.....	61
Master Sergeant W. F. Fitzgerald, USAF	



Soldiers of the 1st Infantry Division march in the streets of Stuttgart during 1951 Independence Day parade.

U. S. Army Photograph

SEVENTH ARMY DEPLOYS FOR DEFENSE

LIEUTENANT NEIL W. MOLD

EARLY in 1950 the role of the United States Army in Europe underwent a significant change—from occupation force to defending army. Under these circumstances, a tactical command of Army strength was required to train and equip a sufficient number of battle-ready troops to repulse any possible attack upon Western Germany.

Accordingly, the United States Seventh Army was re-activated on 24 November 1950 with headquarters in Stuttgart, Germany. Chosen as commanding general of this new army was Lieutenant General Manton S. Eddy, wartime commander of the 9th Infantry Division and later commanding general of XII Corps. He was succeeded in August 1952 by Lieutenant General Charles L. Bolte, former Deputy Chief of Staff for Plans and Research and World War II commander of the 34th Infantry Division in the Italian campaign.

At the time of activation, the Seventh consisted of a few separate units plus the 1st Infantry Division and the highly mobile United States Constabulary. The latter consisted of three corps reconnaissance regiments, the 2d, 6th and 14th Armored Cavalry, assigned medical and engineer units and two Constabulary Squadrons—the 15th and 24th—equipped with armored cars. With this type of organization, the Constabulary could muster three powerful regimental combat teams capable of fighting independently or as a whole.

Activation of the V and VII Corps brought into being the tactical major sub-commands. Major General John E. Dahlquist, formerly commanding general, U. S. 1st Infantry Division, heads V Corps while VII Corps is under Major General Withers A. Burress, formerly commanding general, U. S. Constabulary.

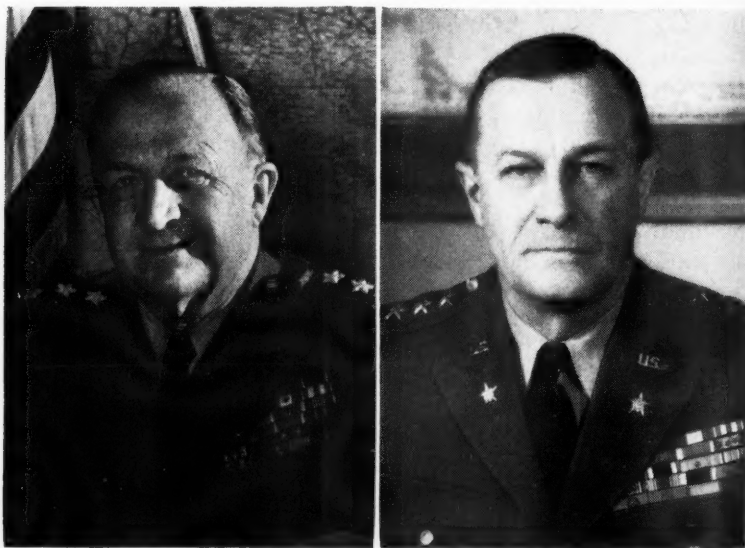
Occupation methods and duties were quickly discarded; de-

FIRST LIEUTENANT NEIL W. MOLD, Armor, is assigned to the Public Information Office, United States Seventh Army.

fense of Western Europe was now the theme. Stepped-up training was undertaken with deadly seriousness. The Constabulary's Noncommissioned Officer Academy, Artillery School and Tank Training Center were absorbed and expanded by Seventh Army. In addition, the Tank Training Center assumed the responsibility of training Mutual Defense Assistance Program students from the North Atlantic Treaty Organization countries. The 1st Infantry Division meanwhile continued to maintain its own schools for the training of Division personnel.

Ranges for individual and crew-served weapons operated at full blast; hardly a day passed that the crackle of carbines and MIs and the crash of tank cannon, artillery pieces and infantry heavy weapons were not heard.

Training areas suitable for maneuvers, exercises and battalion firing problems were few, small and over-crowded. New sites had to be found. By agreement with French authorities, a tank training area in the French Zone of Occupation was made available to United States forces. Another training area—forty thousand acres near Grafenwohr, in Bavaria, and suitable for large-scale maneuvers—was already being used by the Army.



U. S. Army Photographs

Lieutenant General Manton S. Eddy (left) was Commanding General of Seventh Army from its re-activation in November 1950 until August 1952 when he was succeeded by Lieutenant General Charles L. Bolte (right).

As schools and training facilities expanded, so did Seventh Army's strength. The build-up began early in 1951 with the arrival of division and battalion size units. First major unit to bolster the command was the 4th Infantry ("Ivy") Division, followed closely by the 2d Armored ("Hell on Wheels") Division and later by the 28th and 43d Infantry Divisions.

The newly arrived units found their way cleared by advance planning. From Bremerhaven the troops were funneled to a gigantic staging area near the city of Mannheim. This huge tent community, capable of handling a full division, was erected in a remarkably short time by engineers, signalmen and other service personnel drawn from Headquarters European Command, Seventh Army and Heidelberg Military Post. The tent camp was complete to the last detail.

As a tactical field army the Seventh ranges over the whole of West Germany. Field problems, command post exercises and unit alerts are the rule rather than the exception. Exercises and maneuvers include close co-operation with the United States Navy and Air Force and with units of all countries participating in the defense of Western Europe.

In spite of this concentrated training schedule, *esprit de corps* runs high in all units and competition is keen. In recent speed tests the 547th Engineer Combat Battalion joined with the 552d Engineer Ponton Bridge Company to set a new record for bridge construction by spanning the Rhine River with eleven hundred feet of ponton bridge in four hours and thirty minutes.

Voluntary donations by Seventh Army units raised more than a quarter of a million dollars for the 1952 March of Dimes campaign. Members of the Seventh contributed substantially toward the \$50,000 fund raised by American troops to make Christmas 1951 more than just another day for hundreds of German orphans. Scores of German families, in turn, invited Seventh Army soldiers in their homes over the Christmas holidays. The experiment was a noteworthy success, appreciably advancing German-American relations. Many Seventh Army units have "adopted" German orphanages, contributing their money, labor and time.

The Seventh Army soldier is playing well his dual role—as a potential defender of Western European freedom and as an effective promoter of international good will.



First Lieutenant Louis V. Genuario (left) is assigned to staff duty at First Army Headquarters.

U. S. Army Photograph



Master Sergeant George A. Roman is in charge of rifle training at Fort Dix, New Jersey.

U. S. Army Photograph

COMEBACK FROM COMBAT

LIEUTENANT GENERAL WILLIS D. CRITTENBERGER

ABOUT ONE year ago, I had the honor to present the Silver Star award to a young Infantry lieutenant for gallantry in action. While receiving the award he lay flat on his back, encased from the hip down in an immobilizing cast. Recently this same officer reported to First Army Headquarters for a duty assignment. He was walking this time, but with a limp. The wounds he received in Korea had left him permanently disabled and he will probably never see combat again. Yet he still is on active duty and performing an important job for the Army.

Ten years ago this could not have happened. Circumstances then would have forced the young officer into retirement and a pension. But today, as he says, "I never considered leaving the service for a minute—not unless they said I had to." Like hundreds of other officers and enlisted men who have been partially disabled on the battlefield, the Army offers him the opportunity to continue his career.

Today with only a few exceptions the partially disabled are eligible for service wherever and whenever it is possible to use their abilities and past experience. The latest Department of the Army Special Regulation on the subject—SR 600-145-15, 24 April 1952—provides, in effect, that all Military Occupational Specialties (MOS) are open to partially disabled personnel contingent on recommendation of a Profile Classification Board in the case of enlisted men, and a Physical Evaluation Board in the case of officers and warrant officers.

Each partially disabled individual is carefully selected for his new duties. Under the Army's profile system for determining an individual's physical capacity, four classifications are used. Men able to do the most rigorous types of duties are placed in the first category. Others with certain minor defects are placed in a second category. Those with certain functional impairments are placed in the third category. The last category covers those with pronounced limitations who normally would not qualify for

LIEUTENANT GENERAL WILLIS D. CRITTENBERGER, USA, is Commanding General, First Army.

service. The individual's personal desires are always carefully considered by both the medical officers and the classification officers who work together to determine his physical profile category and MOS.

In no case is the soldier branded as "handicapped." He may even be assigned overseas for non-combat work. Only those with amputated limbs requiring the use of prosthetic devices or those who have lost an eye are held ineligible for oversea assignment.

As an example of a carefully selected assignment, take the case of Master Sergeant George A. Roman, now with the 39th Infantry Regiment at Fort Dix, New Jersey. Wounded in the thigh while leading his platoon in Germany during World War II, he underwent surgery four times in eight months. He was discharged with a 60 percent disability pension and returned to his home. But it was not long before he wanted to get back into the service. Fortunately, the Army at that time had just begun to re-evaluate the usefulness of partially disabled veterans and was accepting some five hundred combat-injured men of World War II. These men were to be classified and assigned in accordance with their limitations or given new training for specific assignments. Sergeant Roman, with his broad knowledge and personal experience in combat, was selected to train others.



Master Sergeant Rodger M. Jones performs administrative duties at Fort Dix, New Jersey.

U. S. Army Photograph

Today he is in charge of M1 rifle instruction on his regimental training committee and is doing an effective job.

Besides performing useful work for the Army, the partially disabled are making happier, richer lives for themselves. Instead of being forced into retirement they neither want nor deserve, they are continuing to learn and advance like other soldiers. There is First Lieutenant Louis V. Genuario, for example, the Infantry officer who received the Silver Star and returned for duty at First Army Headquarters. A West Point graduate who had set his heart on an Army career, he dreaded the prospect of early retirement. The Army's program of utilizing the partially disabled permitted him to adjust his career while he was still receiving therapy for a serious hip wound. He has familiarized himself with staff and administrative procedures and is preparing himself for transfer to the Corps of Engineers.

The cases of Sergeant Roman and Lieutenant Genuario are not exceptional. Throughout the entire First Army Area we are using the services of partially disabled personnel. In fact, over fifteen hundred such individuals hold full-time jobs at First Army installations. Some are attending schools to learn new specialties like photography, automotive mechanics, teletype repair, baking, and supply procedures. There is Sergeant First Class LeRoy Walls, for example, whose pelvic bone, kidney, spleen and an ear drum were injured by an exploding mine. Still a Regular Army man, he is learning radio maintenance and repair while performing administrative duties with the 26th Field Artillery.

None of these partially disabled personnel want to be "coddled" when they return to duty. Master Sergeant Rodger M. Jones, although he received severe wounds and burns in Korea and was held a prisoner for two months, requested field training duty when he was released from the hospital. Only after a year of this rigorous work would he admit that he could best perform an administrative job. Now he is a battalion sergeant-major.

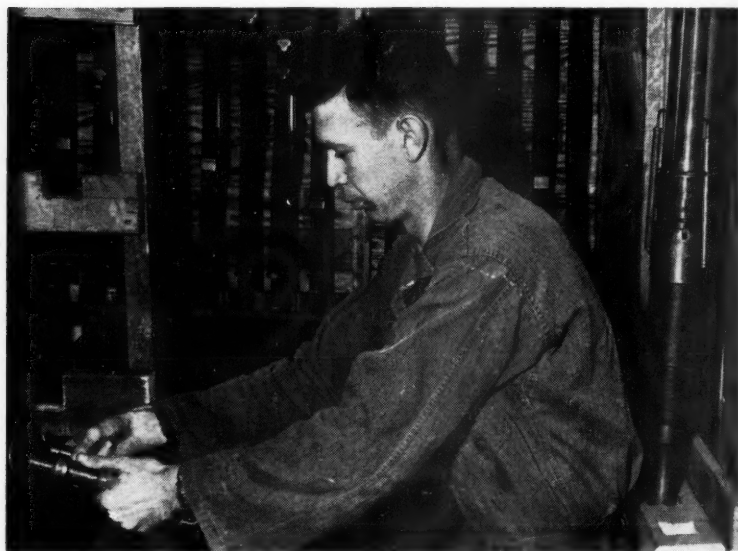
Fort Dix, the largest installation in the First Army Area and one expressly concerned with field training, uses physically handicapped men extensively on its staff. Corporal James R. Allen, who was severely wounded in the hip and abdomen while serving with the 29th Infantry in Korea, is a typical example. Now an armorer artificer with the 9th Division Artillery at Fort Dix, he serves on a leadership course field committee.

At Camp Kilmer, New Jersey, where clerical, supply and technical jobs predominate, partially disabled personnel are also extensively employed. Recent regulations permitting a wide lati-



Sergeant LeRoy Walls (right) continues his Army service as an administrative platoon sergeant.

U. S. Army Photograph



Corporal James R. Allen is on duty as an armorer artificer with the 9th Division Artillery at Fort Dix.

U. S. Army Photograph

tude in the extent of disability which may be considered in retaining an individual have made this possible. Numerous cases of men with amputated arms or legs requiring the use of prosthetic devices have been given favorable consideration for assignment in First Army Area. It has been found that even amputees, with their spirit and determination to stick with their careers, can be retained in the service and gainfully assigned to important jobs.

Today it has become one of the Army's responsibilities to find careers for partially disabled individuals who still want to serve. Gone are the days when only the 100 percent physically fit were considered for enlistment or commissions. Draft records from World War II produced a grim fact which our present and future military leaders must face: The number of perfect physical specimens is limited.

But experience in World War II also led to a heartening discovery. It was found that the vast reservoir of men not physically perfect could also be used to great advantage when the need arose. The pressing requirement for adequate performance of the all-important, behind-the-front services led military authorities to a broadened viewpoint on the use of all types of manpower. From a policy of "exclusion" there slowly developed the practice of "inclusion." Now many persons heretofore barred are eligible for retention wherever and whenever it is possible to adapt their capacities and develop their abilities.

In the enormous ever-present task of building a first-class defense machine, there is no more potent weapon than that of manpower, effectively utilized. The Army has obligated itself to use every man in uniform to the fullest range of his potential. Throughout First Army it is being proved every day that a man with a second-class physical capacity yet with determined will and proper motivation has a place in the ranks of a top-notch Army. Second-class physiques, yes—but first-class soldiers!

THE UNITED STATES COURT OF MILITARY APPEALS

CHIEF JUDGE ROBERT E. QUINN

THE UNIFORM CODE of Military Justice, which became effective in May 1951, added an entirely new concept to military courts-martial procedure. It created a civilian court to act as the final appellate tribunal, thus giving to convicted service personnel appellate rights similar to those available to the ordinary civilian.

The United States Court of Military Appeals was not, however, an instantaneous development. Its roots lie in the slow growth of the concept of appellate review in the military courts-martial system. The Court's status and responsibility cannot be fully appreciated without some awareness of this background.

Courts-martial were historically conceived by the military as a disciplinary command function. Military authorities have long held, for persuasive reasons, that the proper place for application of a penal code is in the field. Viewed from the disciplinary standpoint, it was desirable that court-martial procedure be simple, informal and prompt. Widespread acceptance of these views in the service, together with an attitude of unconcern on the part of the American public, allowed the services to continue for almost a century and a half—from 1775 to 1920—with a court-martial system which provided no really effective legal post-trial review. For all practical purposes, review ended with the officer who appointed the court. And this officer, quite naturally, was more often concerned with enforcing a uniform standard of discipline than with legal concepts of criminal law.

During most of the period mentioned above, high-level legal review was limited by statute to a restricted class of cases. For servicemen sentenced to death, officers faced with dismissal, and any cases involving flag or general officers, Presidential confirmation was required. It was to assist in the review of this limited class of cases that the Office of the Judge Advocate General was first created.

ROBERT E. QUINN is Chief Judge, United States Court of Military Appeals.

It requires no unusually imaginative mind to picture the abuses that could—and sometimes did—arise from the post-trial review system outlined above. Convening authorities, dissatisfied with a court's findings or sentence could return the case for reconsideration until the result conformed to their "standard" of military discipline. Establishment and enforcement of uniform legal concepts was difficult.

It is true that, as already noted, the defender of the service system had plausible and persuasive arguments to present. However, substantially the same arguments were met and overcome years earlier in the establishment of our Anglo-American standards of civil criminal justice. Historically, Americans have been indoctrinated with the principle that it is better that a hundred guilty men should go free than that one innocent man should be wrongfully punished. Even further, Americans do not view lightly the relinquishment of traditional rights allowed the accused in a criminal case, even though those rights may involve lengthy, expensive and time-consuming procedures.

It was inevitable that the contrast between the military courts-martial system and the civilian concepts of criminal justice would be cast in strong relief during World War I when millions of Americans entered the armed services. The public read of injustices, with no efficient system existing for correcting them on appeal. As a result the Congress made substantial changes in the Army system in 1920, leaving unchanged, however, existing Naval criminal law. Included among the changes made was the establishment of boards of review. These boards reviewed cases requiring Presidential confirmation, and cases in which an unsuspended punitive discharge or confinement in a penitentiary was involved. The new law also required post-trial advice to the convening authority by his legally trained staff judge advocate in every case. This was a major step forward.

From 1920 until the beginning of World War II, all the services made improvements in their systems of post-trial review. However, with the commencement of the new war, there again came a tremendous increase in the number of courts-martial, and another cycle of civilian reaction against the system. This led to extensive studies and investigations. In 1948 the Army system was substantially revised by the Congress. Thereafter consideration was directed toward further changes and application of a new law to all the services.

Secretary of Defense James Forrestal appointed a special committee to draft the Uniform Code of Military Justice. Professor

E. M. Morgan, Jr., of Harvard Law School, was named chairman of the committee, which included Assistant Secretary of the Army Gordon Gray, Under Secretary of the Navy John Kenney and Assistant Secretary of the Air Force Eugene Zuckert.

Working with the main committee was a group of approximately fifteen persons including officer representatives of each of the armed services and five civilian lawyers with military experience. Serving as chairman was Mr. Felix Larkin, General Counsel for the Office of Secretary of Defense. This body studied and explored the subject for more than seven months, carefully considering the revised Articles of War, the Articles for the Government of the Navy, the Federal Code, the penal codes of many states, and voluminous reports on military and naval justice compiled by various committees and commissions.

The main committee sat six days a week for more than five weeks. Testimony was presented by representatives of the four major veterans organizations, the American Bar Association, many other bar associations, the Reserve Officers Association, the National Guard Bureau, the National Guard Association and many well-known and well-qualified witnesses. A proposed bill, formulated as a result of these efforts, was presented to the Congress. Extensive hearings were held by Congressional committees and changes were made. On 5 May 1950 the Uniform Code of Military Justice became law, to take effect on 31 May 1951.

In the House Report on the Code, it is stated that Article 67—which created the United States Court of Military Appeals—“contains the most revolutionary changes which have ever been incorporated in our military law.” The Court was termed the “most vital factor” in eliminating the oft-condemned command control from the court-martial system.

The Congress was faced with a difficult choice when it created the Court and provided its jurisdiction. Many groups, opposed to any civilian control over the military, had advocated a judicial council composed of high-ranking service officers as the final appellate tribunal. When it became certain that a civilian court would be created, those same groups advocated severe limitations on its jurisdiction. At the other extreme, some urged review by the Court of both legal and factual issues in all courts-martial. The final result was a modeling of the court after its civilian appellate counterparts.

Jurisdiction was limited to questions of law, including the usual legal issue of whether the findings are supported by substantial evidence. Cases can come to the Court on petition by

the accused if the sentence extends to a disciplinary discharge or confinement for one year or more. The Court has discretion to grant or deny these petitions. In addition, the Judge Advocate General of any service (and the General Counsel of the Treasury Department, acting for the Coast Guard) can certify to the Court any decision of a board of review which he desires to have reviewed. Finally, if a court-martial sentence extends to death or affects a flag or general officer, review by the Court is mandatory. The Court's decisions are final—there is no further direct review. Judicially the Court is independent, although it operates as a part of the Department of Defense for administrative purposes.

The law provides for three judges to be appointed by the President with the advice and consent of the Senate. The judges are granted terms of fifteen years, except for the first appointees, who hold staggered terms of five, ten and fifteen years. No more than two judges may be appointed from the same political party.

The judges, at present, are myself, Judge George W. Latimer and Judge Paul W. Brosman. Judge Latimer was previously a Justice of the Utah Supreme Court. He is a colonel in the Army Reserve and during World War II served as Chief of Staff of a National Guard Division which saw considerable combat in the Pacific Theater. Judge Brosman came to the Court from his post as Dean of Tulane University School of Law. A colonel in the Air Force Reserve, he served in both World Wars I and II.

The Court held its first hearing session on 7 September 1951. As of 21 June 1952, the Court has docketed nine hundred and thirty-three cases. Of these eight hundred and sixty-six were petitions by accused, sixty-one were certificates from the service Judge Advocates General and six were mandatory reviews of cases involving death sentences. Some 65 percent of the cases arose in Japan or Korea.

Present figures indicate that between fifteen hundred and two thousand cases will be filed annually, assuming that the size of our Armed Forces remains at the present level. This means that the accused are seeking review in about 10 percent of the cases where petition for review is allowed under the law. In comparison, the United States Supreme Court docketed one thousand one hundred and eighty-one cases during the 1950 term. The Court of Appeals for the District of Columbia—busiest of the Federal Courts of Appeal—received four hundred and thirty-four cases during fiscal year 1950.

These figures indicate that, with only three judges, the Court

will be hard-pressed to keep up with the work load. Petitions and records must be reviewed, briefs processed, arguments heard, and opinions written. The Court is faced with the task of establishing new frontiers in the field of military criminal law. Not only must justice be done to the individual serviceman, but legal principles must be enunciated which will assist officers in the field in their job of becoming accustomed to the new Code. Concepts of criminal law long accepted in the civilian courts must be measured against the standards set by the Congress and then tested in the light of considerations peculiar to the military service before they are promulgated. All members of the Court know, through personal experience, the military problems incidental to the conduct of courts-martial.

The Court, fully aware of its responsibilities to the Congress, the people and to servicemen generally, is endeavoring to enunciate legal principles worthy of existence in the field of military justice. Part and parcel of this responsibility is the establishment of procedures necessary to the orderly conduct of trials within the framework laid out by the Congress. In order to set forth these procedures, it is necessary and inevitable that occasional cases will be reversed on what the layman might term a technicality. Before hasty judgment is passed on such decisions, it should be recalled that American appellate courts have long sought for and emphasized those procedures calculated to obtain, in the long run and in all varieties of cases, freedom for the innocent and conviction of the guilty.

Procedural requirements inherent in Anglo-Saxon traditions of justice cannot be disregarded merely to convict one who is believed to be guilty. Condoning violation of a rule today, merely in order to keep a guilty man in jail, too often leads to convicting an innocent man tomorrow. These concepts, accepted by appellate tribunals throughout America, are mentioned only in the desire that individual decisions of the court will not be evaluated by themselves, but will be viewed in their proper perspective as part of the entire fabric of military justice.

MEN AND VEHICLES IN KOREA

PRIVATE FIRST CLASS CHARLES W. VOSS

ARMY ordnance mechanics are fighting their own brand of war in Korea—a battle against vehicle wear and tear from roads that can bounce the life out of a truck in less than a month. Korean roads are probably the world's worst; rough as a washboard, they wind in tortuous curves and roller coaster grades, dust eddying off their gravel surfaces.

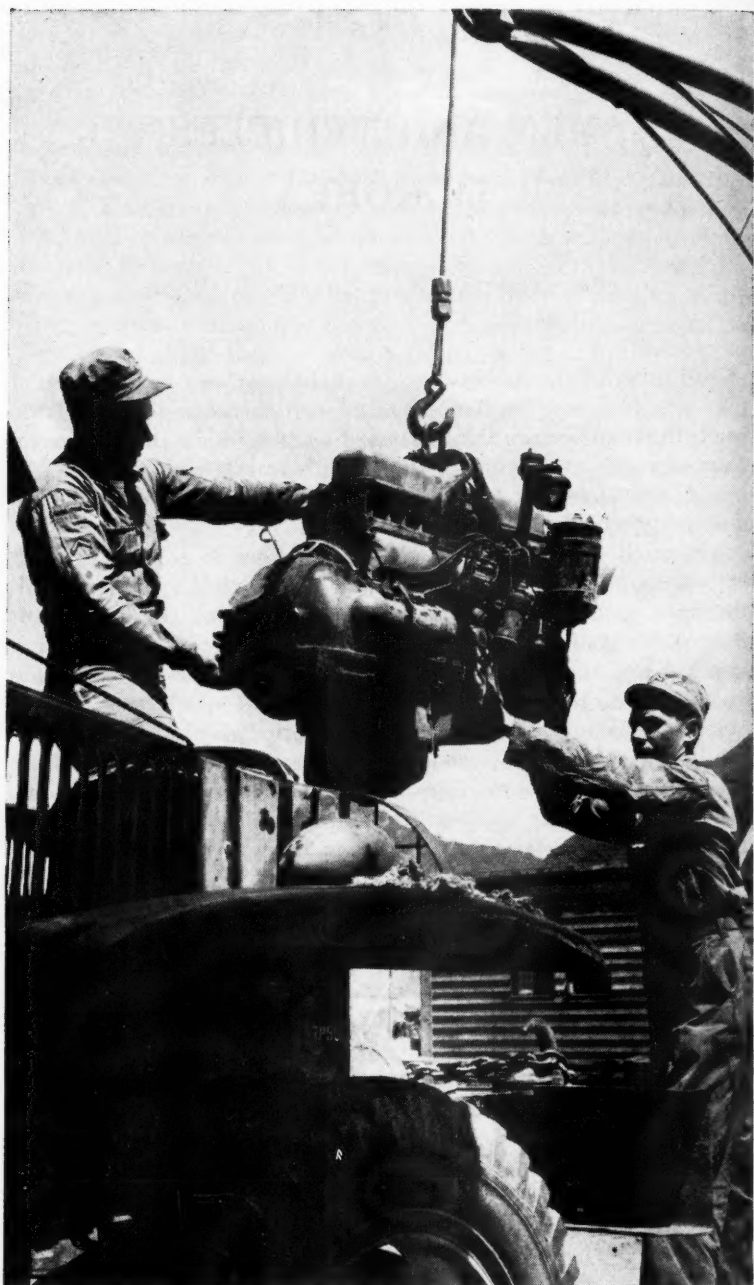
Although Army vehicles are tough, there is a limit to their endurance after days of around-the-clock driving. Heavy hauls through sand, mud and over steep grades grind the life out of motors, transmissions and differentials. Jagged rocks and gaping chuck holes take their toll in broken springs, cracked frames and leaking radiators.

But the victories of Eighth Army troops speak of the success Army ordnance units have achieved over these obstacles. Men in the line eat heartily, artillery lays down a barrage whenever one is ordered, clothing is plentiful and all items needed by an army in the field are available—thanks to the victory of Army Ordnance over Korean roads.

A major share of the ordnance repair load in Korea is carried by the 60th Ordnance Group—the outfit directly supporting corps and Eighth Army units which operate approximately three-fifths of the wheeled vehicles in the forward combat area. Divisions in the line have their own ordnance sections but can rely on the other maintenance companies in the 60th Group for support whenever they have an overload of work. With spare parts in good supply, there is seldom a repair job the companies cannot handle. Only when a vehicle reaches such a road-weary condition that it must be completely torn down and rebuilt from the ground up, is it finally shipped to the Japan Logistical Command for rehabilitation.

The 107th Ordnance Medium Maintenance Company—located

PRIVATE FIRST CLASS CHARLES W. VOSS, USA, is on duty with the Public Information Section, Headquarters, Eighth Army.



After a new motor is installed, this vehicle will move out again, hauling supplies to the Korean front line.

U. S. Army Photograph

so close to the front lines that its men recently test fired a 155-mm. howitzer on enemy targets—typifies the ever-ready service activities of the 60th Group. Strategically placed to make fast repairs for any unit in its support area, the 107th provides a front-line maintenance service comparable to that of a large, permanently established garage in the States.

The one hundred and eighty-nine officers and men of the company live up to their motto—"Kill the customer with kindness"—by giving their patrons a more efficient repair service than they have ever enjoyed before. And they do it while maintaining peak mobility. The unit can be on the road within six to eight hours after getting an order to move and can have its automotive shop operating two hours after reaching a new site.

Normal repair time for a wheeled vehicle at the 107th is three to five days from an initial inspection to the final check-up. But emergency jobs can be handled in twenty-four hours or less. Many top-priority vehicles, including ambulances, or trucks badly needed to haul perishable food, spend only a few hours in the repair shops.

When the loss of a vehicle for even a day would threaten the combat effectiveness of a unit, the 107th gives that unit the best trade-in deal anywhere in the world—a perfectly repaired vehicle just out of the shops in return for the damaged one. The swap is possible because the 107th constantly tries to keep on hand a "float" of 2½-ton trucks, three-quarter ton trucks, and jeeps. Strictly an emergency reserve, these float vehicles are issued only to units whose combat efficiency would be hampered without them.

All companies in the 60th Group maintain a similar float for their needy customers. The idea is an old one but its legality is something new. The first few months of fighting in Korea pointed up the need for such a system, and it was authorized early in 1951. This emergency reserve can spell the difference between well-fed or hungry troops, a successful artillery mission or one that is never fired.

While a satisfied driver returns to his unit with his new float truck, mechanics of the 107th swarm over the heap he brought in to find out just what repairs it needs. The operator may have complained that the transmission was shot, but the 107th gives the truck a complete physical check-up before it begins operating, taking nothing for granted, much like the check-up given a patient at a large medical clinic.

Sometime during the initial inspection an experienced ord-



Army ordnance men in Korea install a wheel axle in a reconditioned two and one-half ton truck.

U. S. Army Photograph



The sign means what it says as this driver leaves his old jeep and gets a reconditioned one in exchange.

U. S. Army Photograph

nance mechanic will climb behind the wheel and road test the vehicle to check for failures which a visual inspection does not reveal. Tests and inspection finished, the vehicle waits its turn in the shops; but if it is a priority vehicle it moves to the head of the line.

By the time the vehicle enters the shop, one of the repairmen has visited the supply room to pick up the principal new parts it will need. Smaller parts are obtained under an efficient new system of direct parts exchange now in use by Army Ordnance in Korea. The exchange works simply. Instead of requiring hard-pressed clerks to make up a parts requisition on each of the smaller parts normally needed in a repair job, those small parts are simply taken off the vehicle, turned in to supply, and the supply clerk issues a new part.

No paper work is involved in the exchange. After one of the parts repair shops in the company repairs the damaged part, it goes on the supply room shelf and takes its turn in the direct exchange system whenever another damaged part is turned in. The system cuts paperwork to zero on small items and insures that unserviceable parts will be turned into ordnance channels instead of winding up in a ditch.

In the rare case when a part is not available in the company, a system of lateral supply goes to work to find it. First, one of the front-office men checks the other companies in the battalion to see if one of them has the part. If it cannot be found there, the search extends to other battalions in the Group and even to the warehouse stocks of the logistical agencies.

If the part does not exist anywhere in Korea, the vehicle needing it is deadlined and moved back to a rear area for repair when the part becomes available. Stress on mobility dictates that no vehicle remain in a forward area for more than a week waiting for parts to be found.

Few vehicles are deadlined because of a parts shortage, however. With the parts supply system working at peak efficiency, the 107th can handle seven hundred and fifty vehicles a month. Actual demands, however, are much lower. About 75 percent of the repair work is performed on the 2½-ton truck, the famed Army workhorse, the type predominantly used in Korea.

After all the new parts are installed and other repairs completed, mechanics test the vehicle just as thoroughly as when it first arrived at the company for repairs. A factory-perfect job is the goal.

To insure that the vehicles receive the best possible care in

the field, ordnance units in Korea keep pounding away at the importance of preventive maintenance. The old adage that an ounce of prevention is worth a pound of cure, when translated into ordnance language, adds up to the fact that good preventive maintenance eliminates the need for a major repair job.

To bring the importance of such maintenance home to front-line units, the 60th Group and its companies send instructor-inspector teams into the field to help units set up their motor pools, organize their parts supply systems and keep an eye on the quality of their preventive maintenance. These teams stress the importance of daily and weekly servicing—the regular checks on battery, oil, water, lights and the other maintenance routines that can spell big trouble if they are neglected. They show motor sergeants and drivers how to make the periodic technical inspections that disclose minor mechanical failures before they become major disablements.

Believing that an organization is as good as the men who run it, the 60th Group sponsors a New Ideas Club to encourage its men to think up work-saving maintenance ideas. Suggestions come into Group headquarters from companies scattered throughout Korea. One man, for example, developed a simple device to test clutch springs before installation to obviate the tedious task of removing the spring if it failed to work properly. Another man came up with a quick, foolproof method of testing newly repaired radiators. Each man got a week-end trip to Seoul, was honored at a retreat formation and was given a scroll and membership card in the club.

It isn't often that an ordnance man rotates back to the States with a duffel bag full of war stories to tell. Every day of the week, a dozen trucks are waiting in line to be repaired and the day after that the Korean roads will supply him with a dozen more. But he and his shop-mates have the satisfaction of knowing that their skills are meeting the toughest possible test.

Indeed, every motor sergeant, dispatcher and driver ought to have a tour in Korea. That combat-torn land today is the most gruelling proving ground in the world for vehicles, the men who drive them and the men who care for them.

WHY MUST WE BE INFORMED?

MAJOR GENERAL JOHN M. DEVINE

THE IMMEDIATE mission of the Armed Forces Information and Education program is to make individuals in the armed services aware of their responsibility to their country. Full realization of this responsibility makes the soldier, the sailor and the airman not only willing but even eager to serve. Upon this bedrock of individual faith in one's cause, the foundations of our national security are built.

Undeniably the mission of the Armed Forces is the security and the defense of the Nation. In the process of establishing this defense we must effectively train our fighting men in modern tactics of warfare. But in addition to this we must motivate each man by informing him of the underlying reasons why his nation is pursuing a particular course. Therein lies the real reason for today's vast Information and Education program.

Recently, at the invitation of Mrs. Anna Rosenberg, Assistant Secretary of Defense, an extensive study of the Armed Forces Information and Education program was made by Dr. Frank H. Bowles of the Ford Foundation. Doctor Bowles' survey revealed that while Information and Education is considered an essential element of well-rounded training in the armed services, a great many Armed Forces personnel were reluctant to accept the program. The study emphasized a fact we have long known—that we have a sizable group of die-hards. Making them see that national security and Information and Education go hand-in-hand has been one of our greatest problems.

Admittedly the problems of the Army, the Navy and the Air Force are not the same. Circumstances are different in each service and the solutions are likewise different; therefore no hard and fast formula can be laid down for commanders to follow. However, essential materials for the various programs are

MAJOR GENERAL JOHN M. DEVINE, USA, was Director, Office of Armed Forces Information and Education, Department of Defense, until his retirement in July 1952.

supplied as a guide to all commands by the Office of Armed Forces Information and Education.

Training men to shoot, drill, read maps, navigate, evaluate intelligence, and to master all of the other elements that go into the forming of a prime fighting man are most necessary to our national defense. But equally important is the factor of morale. Besides supplementing the combat training program, the Information and Education program is designed to improve the morale of our forces.

Morale is a tool in the hands of the leader to make his unit a better organization. All military leaders agree that an American serviceman in training is infinitely more effective when he is kept informed. He must be told why his services are necessary—why he has to be in the Army, the Navy or the Air Force. We in the armed services must give him this vital information. At times this is not an easy task; and perhaps that is one of the reasons why so many people shy away from it. Unlike standard military training, it is extremely difficult to project the meaning of such intangibles as patriotism, democracy, the threat to democracy in the world today, why we owe a debt of service to our country, and why we are called upon to pay it. These are the aims of the information program and of the education program as well.

Generally speaking, the higher the educational level of the personnel in a unit the more effective it becomes. Men with a sound intellectual development usually understand more readily the need for their services and will more rapidly adapt themselves to the military way of life.

Leadership has long been a subject of study by various research agencies of the Department of Defense. Leadership requirements vary. A platoon sergeant needs one type of leadership; a company commander needs a similar but slightly different kind of leadership. At higher levels the nature of leadership changes drastically.

Before the Information Hour became known as such, many commanders applied basic leadership principles in weekly conferences with their personnel. One of these commanders at West Point was Major Jacob L. Devers, who retired late in 1949 with the grade of general. Each Wednesday afternoon, after the horses had been cared for, those of us in the Field Artillery Detachment at West Point would assemble in the gymnasium where Major Devers conducted a discussion period to inform his men on past and present activities and future plans. This hour came

to be one of the most popular and talked about programs on the post. The major frequently delegated certain portions to other company officers or noncommissioned officers. Subjects varied from a report on the noncommissioned officers' club to the prospects for a good detachment baseball team for the coming season. That hour largely accounted for the high morale in the organization. The men felt that their commanding officer knew them, that he took them into his confidence, that he kept them informed as to what was going on, and that he was interested in the many things which were of interest to them. This made all the difference in the world in their attitude toward him, toward each other and toward what they were doing.

Telling the American serviceman what is expected of him, what he may expect in battle, and the reasons he has been required to fight for his country are not new in American military history. During the Nation's early struggle for independence, General George Washington insisted that his commanders keep the troops informed so that they might know and be aware of the issues involved. Occasionally the allegation is made today that our Armed Forces are spending too much time on civics and world history when they should be learning how to shoot machine guns. The record of our military achievements since the Nation's birth seems to belie that notion.

One of the many methods used to keep the troops informed is *Armed Forces Talk*, published three times a month by the Office of Armed Forces Information and Education. Each issue is devoted to a single topic such as democracy, the Soviets, military tactics, leadership, to name a few. With this type of pamphlet at his disposal, the unit commander and his Information and Education officer have a wealth of excellent and timely material to disseminate to their command.

The United States Armed Forces Institute, the world's largest correspondence school, is one of the finest institutions of its type. It is estimated that during 1952 one million persons in uniform will use USAFI facilities. The correspondence curriculum is closely watched for accuracy and quality of material by an Educational Program Committee consisting of distinguished educators. Three members of this committee are presidents of national education associations.

Another channel of the Armed Forces Information and Education program is the Armed Forces Press and Radio Service. Radio activities center in Los Angeles, California, where master programming is accomplished. From here thirty thousand six-

teen-inch records of top radio programs are shipped out monthly to sixty-one sub-stations throughout the world. The network has outlets in virtually all areas outside continental United States where American servicemen and servicewomen are stationed. By agreement with the radio networks that donate these programs as a public service, these shows cannot be broadcast in the United States except in training camps and hospitals.

Basic information and news features for use in Army, Navy and Air Force unit newspapers are disseminated from its New York City offices by the Armed Forces Press and Radio Service. Guide books to oversea theaters, handbooks of information on servicemen's voting rights, posters and other information materials are prepared and distributed by the Office of Armed Forces Information and Education, Washington, D. C.

It must be emphasized, however, that the Armed Forces are not in the Information and Education business to prepare servicemen for their future in civilian life, except incidentally. Our primary mission, as always, is national security. By informing and educating our personnel, we are making better men and better citizens whose increased knowledge will enable them to contribute more effectively to the national security. That, in essence, is our objective.

If you spend only 10 percent of your time in keeping up with what is going on in the world and making up your mind on the issues of the day, you will be amply rewarded. The success of the leadership which the United States extends to the world directly depends on the leadership of its individual citizens.

General of the Army Omar N. Bradley

WHY MUST WE INFORM OTHERS?

GENERAL J. LAWTON COLLINS

WE IN THE armed services of a democracy cannot live in a vacuum apart from the rest of our fellow-citizens who, although not in uniform, nevertheless bear equal responsibility for our national security. We must keep our people fully informed to a greater extent than ever before because of the menace of militant Communism that threatens us and because of the magnitude of the defense program necessary to meet that threat. The need for close co-operation, thorough understanding and mutual confidence among our citizens both in and out of uniform, is very great today.

We in uniform can best fulfill our responsibility by maintaining a positive, constructive approach in all our relations with our fellow-citizens. I feel very strongly that good public relations is a function of command. A good leader is his own public relations officer—whether it be of his platoon or of his division. He must first establish sound policies and then he must personally keep in touch with public reaction in the local communities. It is manifestly unfair to pass the responsibility to some junior officer to get the commander out of hot water when the basic fault is the commander's lack of a good program. He must constantly bear in mind that he is a leader in the Armed Forces of a democracy and therefore almost everything his men do will have an effect on what nearby communities think of his unit.

From the commander's standpoint, the proposed solution to each problem which may arise should be weighed as to the probable public reaction before it is put into effect. If, in this analysis, the anticipated reaction is negative or unfavorable, plans for presenting the subject should face these issues squarely.

In all cases, we must make every effort to insure that our fellow-Americans will more readily understand what we are trying to do. Both the military and public relations aspects of each

Based upon remarks by General Collins to faculty and students of the Armed Forces Information School, Fort Slocum, New York, on 8 May 1952.

proposed step should be thoroughly developed so that the community may be informed ahead of time of the reasons for any new program affecting it. That is a positive approach, far preferable to walking blindly into a situation and then attempting to handle adverse reaction with hastily improvised rebuttals.

We cannot, for example, expect to win the co-operation and confidence of those about us in our civilian communities if we permit incidents such as the one which occurred in Chicago a few years ago. A group of high-ranking officers was called in from various Army Areas for a conference. A sizable delegation came in from Washington on a crowded train along with many business men and other travelers. As the military party got off the train, they found a fleet of Government automobiles completely filling the taxi loading zone. The officers regally got into the waiting cars while many individuals with scheduled appointments had to wait until this august body had moved out and the taxis could re-occupy their regular stands.

Upon leaving the station, the group was given a police escort, complete with sirens, which succeeded in holding up civilian traffic during the morning rush hour. Yet the meeting was not scheduled until mid-morning so there was actually no need for haste. This classic example of poor public relations could be contrasted with many good examples to show how the services have been made aware of the fact that a close understanding with the public must be a primary consideration.

Good public relations is not synthetic. It must be built primarily upon high standards of performance. No amount of false publicity can hide a poor performance from the eyes of the American people, for to them it is certain that actions always speak louder than words.

And the personal pride in self and unit and the high morale which go hand in hand with high standards of performance are vital to the building of good public relations. There are no better—or more authoritative—spokesmen for the Armed Forces than the men and women who wear their uniforms. The basic principle that good public relations begins at home is nowhere truer than in the Armed Forces.

An important corollary to our program of information for the public is our Information and Education program for ourselves—or what might be called our internal public relations. It is exceedingly important that the great numbers of young Americans we now have in service be well informed and given opportunities to equip themselves for their return to civilian life.

It has been my experience that if you will only take the American serviceman into your confidence and explain to him what you are driving at, he will be sure to meet you more than half way every time.

I think Baron von Steuben, the German officer who came over to help instill some discipline into General Washington's Continental Army, put his finger on the essence of our American system of discipline based on understanding when he wrote the following comment back to a friend in Germany: "In Europe, the officer saith to his subordinate, 'Do this' and he does it. In America, the officer has to say 'This is the reason why you ought to do this,' and then the subordinate does it."

One of the finest things we have been able to achieve in Korea, aside from converting the Eighth Army from a peacetime force to a fighting force in a very short time, is the fact that the morale of our officers and men there has been maintained at a superb level by our commanders of all ranks. This is particularly admirable in view of the large-scale rotation which has replaced combat veterans with inexperienced men without impairing the fighting capacity of the Eighth Army. We could never have accomplished these things, in my judgment, without the information program for our men over there.

To be truly effective, both public information and troop information must form part of an integrated pattern. In our approach to the public, there must be a sound appreciation of the people's interest in their Armed Forces. At the same time, there must be a sound program of informing our men of the reasoning behind what we have to do. From the rawest recruits to the highest commanders, this task of informing others is an important responsibility which all of us must shoulder well.

The military leader must have as full an understanding as possible of politics and economics and of the complicated problems of history and of national aspirations that form a part of them.

The Honorable Thams K. Finletter



Men in training at the Engineer Center learn the difficult but practical techniques of climbing and swinging over barriers. U. S. Army Photograph

CURRICULUM OF COURAGE

IT LOOKS forbidding; it looks formidable; in fact some parts of it look well nigh impossible to the young soldier learning the rudiments of his new profession. Those towering walls, deep ditches, steep inclines with sheer drops, plus more than a score of other barriers, are made to look just that way—as serious obstacles to be overcome.

But that is the secret of the whole thing. Once the embryo soldier learns that he really can surmount them, he is well on his way to becoming a seasoned soldier—confident in himself and in his companions.

The Confidence Course is an integral part of the training given today to newly inducted members of the United States Army. Typical of these courses is the one at Fort Belvoir, Virginia, where a battery of twenty-six barriers challenges the trainee's spirit of daring and inspires in him the strong conviction of his own mental and physical stamina.

The Army field manual on physical training prescribes twenty-four obstacles that can be built into such a course. The Training Division of the Engineer Replacement Training Center has used all of these devices and thrown in two more of its own.

Equipped with the usual rope swings and logs laid over ditches, the Belvoir Confidence Course is also studded with some of the most awesome devices ever faced by a newly inducted soldier. Each man takes seven gruelling trips over this course during his sixteen weeks of training. He thus acquires a strong measure of self confidence and also hardens himself to withstand the physical stresses of combat.

There is no compulsion for a man to negotiate all steps of the course and those not physically equipped for the more difficult climbs and jumps may by-pass them. But there are few who will risk the ridicule of their fellows in deliberately avoiding the simpler of the tasks. Extremely hazardous barriers have been eliminated and there is little danger from falls since under each high structure a deep sawdust pit offers protection from injury.

After his experience acquired on the Belvoir course, the new soldier is convinced that he can climb, crawl, jump or swing over or around anything that stands in his path. Once the trainee feels this way, the Confidence Course has eminently accomplished its mission.



The inclining wall, besides being a body builder, supplements the village fighting portion of basic training. Below—Real physical effort and dexterity are required here.

U. S. Army Photographs





In surmounting the "High Step Over," trainees with hands behind their backs double-time over logs set two feet apart. Below—The "Balancing Logs" develop a good sense of equilibrium.

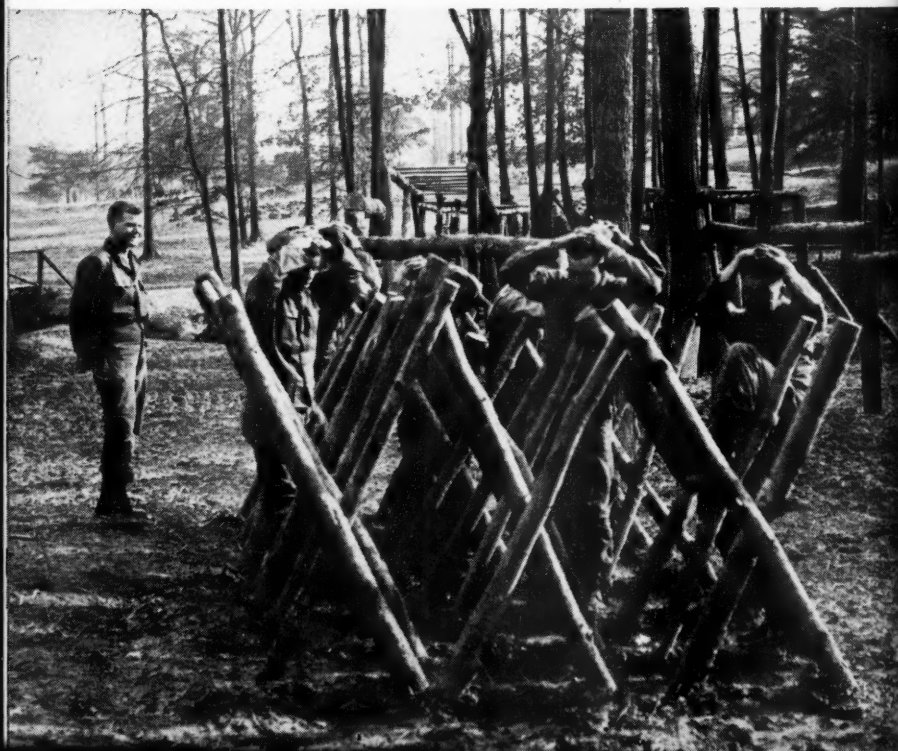
U. S. Army Photographs





A group of men thread their way through the muscle-building web of "The Weaver." Below—Men move through a ten-foot stretch of slanted crossed logs without using their arms.

U. S. Army Photographs



The
sed
aphs



The "Confidence Climb," forty feet high with crossbars set at varying distances apart, develops fortitude and self-reliance.

U. S. Army Photograph

THE EVOLUTION OF A SATELLITE ARMY

WHEN Lieutenant General Petur Pavlov Panchevski, a former Soviet officer, assumed the position of Minister of People's Defense in Bulgaria on 29 May 1950, he became the commander of the Bulgarian armed forces and the director of their destinies. His accession also roughly marks the emergence of a Soviet patterned military force in which quality and purely military considerations were to weigh more heavily than quantitative and political factors. Since that date, the Bulgarian Army has progressively increased its capabilities and over-all potential until its forces now materially augment the strength of the Soviet bloc in Southeastern Europe and represent the best, although not the largest, satellite army in Europe.

Many vicissitudes have marked the progress of the Bulgarian Army from its formation in the late Nineteenth Century to its emergence today as a modern Soviet-type combat force. Changes in foreign influence, military defeats, economic and political developments, international power politics—all have had their influence on the Bulgarian military establishment. In spite of the changes which have occurred during the past three quarters of a century, there has been at least a continuity of purpose on the part of the military leadership, and the mission of the army has not changed greatly, even with a change in the political climate. Sociologic, geographic and economic influence and environment, on the other hand, have not changed greatly, yet these have largely conditioned the direction of the Bulgarian Army's development.

Bulgaria is a small, primarily agrarian nation occupying some 42,785 square miles in the east central parts of the Balkan peninsula. The country is, and always has been, poor economically and dependent on outside sources for all except non-commercial agricultural crops. This dependence has necessitated a close alignment with one of the Great Powers—usually Russia or Germany. However, the interest of the Great Powers has been directed to Bulgaria for another and more significant reason—the country's geographic location on the chief international routes connecting southeastern and central Europe with the

Near East. Thus Tsarist Russia sought Bulgaria as a tool to secure control of "the Straits," and Germany attempted to use Bulgaria to further her hegemonic position in the Balkans.

Although the Bulgarians receive their name from tribes of Asiatic nomads who occupied the area of modern Bulgaria in the second half of the Seventh Century, the Bulgarians today, as a result of the assimilation of these nomads by the indigenous Slavic population, are a member of the ethnic group known as South Slavs. In religion, culture and language, Bulgarians are closely associated with the Great Russians, a fact which the Tsarist, and later the Soviet, leaders have used to increase their influence in Bulgaria. Ethnically, Bulgaria's population of over seven million is fairly homogeneous. There are roughly two hundred thousand Slavo-Macedonians, most of whom are in southwestern Bulgaria, but in most respects these people differ very little from the Bulgars. The country includes, however,



roughly half a million ethnic Turks and one hundred and fifty thousand Gypsies who represent passive minorities which are seldom inducted into the Army. The population is overwhelmingly agrarian with only 25 percent of the people urban dwellers. The nation has a fairly high literacy rate and, as far back as 1934, almost 70 percent of the population could read and write.

Bulgarian rulers managed to subject much of the Balkan peninsula to their rule during the years from 681 to 1018 and again from 1185 to 1396. The country was held in subservience by the Ottoman Turks between 1396 and 1878. During the Nineteenth Century, a general resurgence of national feeling led to uprisings in the 1870's. The brutal suppression of these revolts by the Turks—the oft-referred to “Bulgarian atrocities”—shocked Europe. Taking advantage of the situation, Russia declared war on Turkey in 1877 and defeated her in 1878. By the Treaty of San Stefano, signed in that year, the Russians attempted to create a strong Bulgarian state under their control. Russia's vital role in the liberation of Bulgaria from the Turks, together with strong ties of religion, language, culture and race, created a strong pro-Russian sentiment. However, upon the insistence of Great Britain and Austria, the Berlin Congress which was summoned in 1878 to revise the Treaty of San Stefano, greatly reduced the size of the country and placed the emasculated state under the suzerainty of Turkey. This loss of territory (part of which was subsequently regained) was keenly felt by Bulgarian nationalists. Its re-acquisition has proved to be one of the most powerful factors in determining Bulgarian foreign policy, ultimately influencing the Bulgarian government to engage in the First and Second Balkan Wars in 1912 and 1913 and World Wars I and II.

An Army Emerges

The first army of the Principality of Bulgaria was created and equipped by the Russians directly after the Russo-Turkish War of 1877-78. The army received its baptism of fire against Serbia. In 1885, Eastern Rumelia, part of the territory taken from Bulgaria at the Congress of Berlin, revolted against its Turkish overlords and was later united to Bulgaria. This caused Serbia to declare war on Bulgaria, but in a short campaign Bulgaria emerged victorious. In 1886, universal military training was introduced in Bulgaria.

With the accession of the German Prince Ferdinand of Saxe-Coburg in 1887, Russian influence in the army was replaced by

German with the latter rising to dominance by World War I. The rule of Ferdinand, lasting until 1918, was marked by a growth of militarism and chauvinistic adventures. By 1912 the Bulgarian Army numbered in excess of three hundred thousand and was the most powerful force in the Balkans. In the First Balkan War Bulgaria was largely responsible for the defeat of the Turkish Army and the removal of Turkey from all but a small segment of the Balkan peninsula. Bulgaria and her former allies, Serbia and Greece, immediately quarrelled over the spoils and in 1913 the Bulgarian Army attacked these two countries and precipitated the Second Balkan War. Turkey and Rumania entered the war against Bulgaria, and the combined forces easily defeated the Bulgarians in a short campaign.

As a result of the Second Balkan War, Bulgaria lost considerable territory and by so doing added fire to the irredentism which had been kindled at the Berlin Congress. Desire for the return of those territories which "rightfully belonged to Bulgaria" strongly influenced the Bulgarian government to enter World War I on the side of the Central Powers, and World War II on the side of the Axis.

At the end of World War I, Bulgaria was forced to sign the Treaty of Neuilly (1919) which greatly limited the size of her armed forces and again reduced the size of her territory. Like Germany, Bulgaria during the period between World Wars I and II agitated to have the terms of her peace treaty revised, while actually circumventing its military provisions.

Bulgaria entered World War II in 1940 on the side of the Axis, and her territory served as the major staging area for the German attack on Yugoslavia and Greece. The Bulgarian Army did not participate in the German Balkan offensive but after the defeat of the Allied forces, Bulgarian troops occupied those Greek and Yugoslav territories which Bulgarians considered to be *terra irredenta*. Between 1940 and September 1944, when Bulgaria capitulated to the Allied nations, her army was used primarily in action against partisans. In this combat it proved extremely effective, matching the partisans in cunning and hardiness. When the Germans invaded the Soviet Union, it was believed that popular feeling in Bulgaria would be so opposed to active participation against the kindred Russians that the government of Tsar Boris neither declared war on the Soviet Union nor committed any troops to service on the eastern front.

After surrendering to the Allies in 1944, Bulgaria entered the war against the Axis and formed a force of about two hundred

thousand troops which actively assisted in the liberation of Yugoslavia. In early 1945, the Bulgarian First Army with about one hundred thousand troops was attached to the Soviet Third Ukrainian Front, with which it participated in the "liberation" of Hungary and Austria. In the period after September 1944, the Bulgarian Army, at that time modelled on German lines and utilizing German type equipment, proved its effectiveness.

Soviet Influences at Work

With the arrival of the Red Army in Bulgaria in September 1944, the Bulgarian Army entered a new era—one which has seen the rapid replacement of German direction by that of the Soviets, in much the same manner as German influence replaced Russian in the army's formative years.

Although Soviet control has replaced German in other satellites, the process in Bulgaria has been greatly accelerated by several factors. First, there was a substantial number of ethnic Bulgarians serving in the Red Army, who had fled to the Soviet Union following an abortive Communist coup in 1923 or to escape prosecution for illegal Communist activity. These Bulgarian Communists were transferred to the Bulgarian Army in 1944 and 1945 and, together with a Soviet military mission, they carried on the reorganization and reorientation of the army.

The "sovietization" of the army was accomplished by Communists of long standing—men who had been thoroughly indoctrinated in the Soviet Union and who could, for all intents and purposes, be considered Soviet rather than Bulgarian officers. Georgi Damyanov, who was appointed Minister of War in 1946, and Ivan Kinov, appointed Chief of the General Staff in 1944, had fled to the Soviet Union in 1923 and later entered the Red Army. Both were instructors at the Frunze Academy in Moscow and the latter commanded a Soviet division during World War II. Petur Panchevski, now Minister of Defense, was a World War II brigade commander in the Red Army; he directed the formation of the post-war Bulgarian armored force and today wears the decoration for twenty years' service in the Red Army. Ivan Mikhailov Popov, a former Soviet colonel and career artillery officer who also served more than twenty years in the Red Army, is the guiding spirit in development of the post-war Bulgarian artillery arm. Still another influential Communist is Asen Grekov, a former Soviet colonel who commanded the Bulgarian Second Army, became Chief of Staff in 1949 and is today Deputy Minister of Defense.

In the second place, by capitalizing upon traditional fraternal feelings, the Soviets were better able to introduce their system than in such countries as Hungary, Rumania and Poland where ethnic and cultural ties were lacking and enmities existed.

Third, the fact that Soviet units occupied Bulgaria until the end of 1947 facilitated the initial reorganization and retraining of the army. Furthermore, when the Soviet Army evacuated Bulgaria, it left behind much equipment for Bulgarian use.

On 10 February 1947, the Allies concluded a peace treaty with Bulgaria at Paris. Like the earlier treaty signed at Neuilly, the Treaty of Paris limited the size of the Bulgarian armed forces. Total strength was set at 65,500 men apportioned as follows: ground forces, including frontier troops, 55,000; antiaircraft artillery, 1800; navy, 3500; air force, including any naval air arm, 5200. Furthermore, the Treaty specifies that personnel not included in these services may not receive any form of military training. Bulgaria was given until 15 March 1948 to reduce her forces to treaty strength and official spokesmen claimed she had done so. Whether this was true or not is now academic, as Bulgaria with the connivance of the Soviet Union has flagrantly violated the treaty in most respects since then, especially the provisions relative to personnel strength.

Purge and Reorganization

At the close of World War II, Bulgaria had a large number of troops under arms, many of whom could not be relied upon by the Communists. Furthermore, as a defeated former Axis power, it was inevitable that the standing army permitted by any subsequent peace treaty would not be very large. Consequently, to lessen the size of the army and to remove anti-Communist elements, a sweeping purge was conducted in 1946 and 1947. Many officers were executed, incarcerated or discharged "in the interest of the service." The removal of a large percentage of trained general and field grade officers left a considerable gap which was filled by the expedient of rapidly promoting company grade officers, noncommissioned officers and former Communist partisans to fill the various positions. The chief qualification for promotion, in the true Communist tradition, was political reliability.

During this period the Bulgarian Army was permitted to deteriorate. Meanwhile, under Soviet direction, the Communist rulers of Bulgaria prepared the groundwork for the subsequent reorganization of the army from German to Soviet lines. As early

as 1945, Bulgarian officers who were considered reliable Communists were sent to Soviet military schools to learn Soviet military concepts and methods. These officers were destined to supplement the hard core of ethnic Bulgarians who had served in the Red Army.

In addition to training future staff officers, tactical commanders and necessary cadres in Soviet tactics, techniques and developments, basic changes were undertaken in the army to eliminate the former German influence. New tables of organization and equipment were prepared based on Soviet organization, and Soviet manuals and other military literature were translated into Bulgarian. The basic military laws and regulations were modified to conform with those of the Soviet Union. The introduction of Soviet organization, training and tactics required the use of Soviet materiel; accordingly token quantities for familiarization purposes were supplied by the Soviet occupation forces, although German weapons, available in quantity after the war, remained standard in most units. By the time the Soviet units withdrew from the country in accordance with the provisions of the Bulgarian Peace Treaty, the pattern for the future Soviet-type Bulgarian Army was beginning to take shape.

"Sovietization" of the Army

The transition from a German to a Soviet-type army occupied the period between 1948 and early 1950. The "sovietization" of the army and its expansion were accelerated considerably following the Tito-Cominform split in mid-1948. The defection of Yugoslavia from the Soviet camp required the development of a strong Bulgarian Army to restore, at least partially, the balance of military forces in the Balkan area. Furthermore, the pursuit of the defeated Greek guerrillas in the autumn of 1949 brought the combat-proven Greek National Army to the Bulgarian border, making the rapid development of a combat-ready Bulgarian Army more essential than it had been previously. (See "The Army of the Greeks," January 1952 DIGEST.)

By early 1950, accelerated training, development of cadres, political purification and re-equipment in the army had progressed to such a degree that all vestiges of the former German influence had been removed. Although Minister of Defense Damyanov had done his work of reorganizing and "purifying" the Bulgarian Army admirably, it apparently was decided that the future development of the army into a well-knit, combat-ready force could best be handled by a highly qualified and

experienced officer—qualities possessed in considerable degree by Damyanov's successor as Minister of Defense, Lieutenant General (now Colonel General) Petur Panchevski.

Under Panchevski's direction, and with the supervision of a large Soviet military mission in the country, the Bulgarian Army has been considerably expanded in both personnel and unit strength. Basic military laws and regulations which were not in conformity with those that governed the Soviet Army were further modified. Traditional Bulgarian military terminology was replaced by Bulgarian equivalents of Russian language terms although in many cases the terms were identical. The length of the basic compulsory period of military service was extended from twenty-four to thirty months. Increased shipments of Soviet weapons permitted the replacement of the World War II German weapons and the adoption and implementation of Soviet tables of equipment. The arrival of new Soviet materiel in large quantities also permitted establishment of mobilization reserves capable of expanding the army considerably in event of war.

Maintenance of army morale was one of the chief problems facing Panchevski. After reaching its low point during the 1946-47 purges, morale had improved materially by 1950; but this improvement was soon seriously undermined by the government's forced collectivization policy. By the end of 1950, almost one half of the peasant population had been forced to join collectives. This caused considerable resentment and unrest among the peasants, reaching crisis proportions in early 1951. The resentment was communicated in varying degree to the army conscripts, most of whom were from peasant families.

In order to counteract this adverse influence, army careers were made more attractive. Pay and allowances were increased and various activities of a morale building nature were undertaken. Ever-present political indoctrination was used to the full to direct soldiers' attention from internal difficulties to the menace of the "aggressive Western nations." Intensive training hardly left much time for the average conscript to think about collectivization or other non-military matters. Finally, in the event that the kid-glove treatment and the added inducements failed to accomplish their purpose with some of the more resentful individuals, they were dissuaded from expressing overtly any recalcitrance toward the regime by implied or actual threats of swift and violent retaliation against not only the wrongdoer but also his family. With conditions in the army—food, hous-

ing, clothing and special privileges—actually better than among the civilian populace, morale has been considerably improved.

The Bulgarian Army, modelled closely upon the Soviet pattern, is today one of the most effective forces in Europe. Exclusive of frontier guards and other militarized personnel, the army is currently at least three times larger than that permitted by the Paris Peace Treaty. In this conscript force, length of compulsory duty varies from thirty months for infantry to forty-eight months for specialists. It is a force commanded and staffed by a large permanent cadre of Communist officers and noncommissioned officers, all of whom are trained in Soviet tactics, techniques and use of standard Soviet materiel. The army high command is presided over, and almost entirely staffed by, officers who either served in the Red Army during World War II or who have attended Soviet military Schools and academies since 1944. Not only are Bulgarian military staffs and tactical units organized along Soviet Army patterns; their forces are also armed primarily with Soviet World War II types of weapons. In short, the Bulgarian Army in most respects is a small replica of the Soviet Army.

The general level of Bulgarian Army training is improving under close guidance of the Soviet military mission. Basic training for conscripts lasts three months and is fully adequate. Unit training is conducted on a year-round basis, over six months of which is spent in the field. Small unit exercises are normally conducted in late spring, with exercises progressively increasing in size throughout the summer, culminating in high level maneuvers in the autumn. In winter, garrison and unit field training is conducted on a smaller scale than in summer.

The Bulgarian Army school system is extensive, and courses in recent years have been considerably accelerated when compared with those of the past. The native military schools are supplemented to a considerable degree by the Soviet Army's schools and academies. Large numbers of Communist officers, noncommissioned officers and specialists are being graduated from the existing Bulgarian schools and are progressively increasing the effectiveness and political reliability of the army. However, the newly commissioned officers, although politically trustworthy, are not uniformly well-trained or prepared to lead troops in combat—a weakness which may be removed as these officers gain experience in command and staff assignments.

The Bulgarian Army possesses a large reserve. But its effectiveness is questionable as the majority in this category were

trained with German materiel and along German lines. An effort is being made to re-train politically reliable reservists, and in this connection, all reservists are officially required to undergo refresher training at least once every three years.

Bulgaria's Balkan Legacy

The fact that Bulgarians have, for some generations, either been in a war, just out of a war, or just about to enter a war with one or all of their neighbors continues to exert a decisive influence. The considerable loss of territory and population which Bulgaria has suffered since its liberation from the Turks, and the strong national feelings which developed in the country during and subsequent to Turkish rule, have all combined to produce strong feelings of nationalism, chauvinism and irredentism among the people. These forces have proved to be powerful factors in uniting the Bulgarians against their neighbors. They have also been exploited by Bulgarian rulers in inciting their people against other Balkan nations.

During their brief existence as a nation, the Bulgarians have developed a considerable military tradition and it is not without reason that they are referred to as "the Prussians of the Balkans." They are especially proud of their past military feats. In spite of the fact that the Bulgarian Army has been defeated in every war in which it participated since the First Balkan War, the people tend to despise their neighbors whom they consider inferior to themselves in the art of war.

The Communists, while never losing sight of the goals of international Communism as dictated from the Kremlin, have nevertheless found it expedient to utilize such ingrained feelings as pride in military traditions, nationalism and extreme patriotism in the indoctrination of the troops. Furthermore, the threat of an attack by Bulgaria's traditionally hostile neighbors, Yugoslavia, Greece and Turkey, is constantly stressed on the one hand, whereas an attempt is being made to capitalize upon Bulgaria's traditional friendship toward the Russians to develop respect and admiration for the Soviet Army and, if possible, loyalty to Soviet Communism and the Soviet leaders.

Because she lacks the industrial base for an armament industry, Bulgaria is entirely dependent on outside sources (principally the Soviet Union) for all heavy ordnance and most of its light ordnance and equipment. Also, the Bulgarian economy is incapable of supporting a large standing army and must therefore rely upon the "generosity" of the USSR for the material re-

quirements of a modern combat force. Thus the ability of the Bulgarian Army to wage war is directly conditioned by over-all Soviet plans and Soviet evaluation of the reliability of that force. The price Bulgaria must pay for Soviet assistance is to subordinate her own national interests to those of the Soviet Union. Bulgarian forces have no genuine independent national identity but exist as an adjunct of the Soviet Army, to be used when, where and in such manner as the Kremlin sees fit.

Occupying the southern flank of the Soviet empire in Europe, Bulgaria today faces traditionally and currently hostile forces of Turkey, Greece and Yugoslavia. Even after allowing for normal security requirements, there is no indication that the Bulgarian Army envisages a purely defensive role. In fact, its training, organization and equipment all belie it.

The future role of the Bulgarian Army is known only to the Kremlin and perhaps to some of the most trusted leaders in Bulgaria. It is safe to say, however, that its mission will be determined by the Soviet Union and that this mission will be in furtherance of Bulgarian national interests only if this agrees with Soviet plans. As long as a strong Bulgarian Army under Communist control continues to exist and expand, it will pose a threat to Bulgaria's non-satellite neighbors and will thus serve as an unsettling influence in the Balkan area.

Communism is a doctrine of hate. Its leaders must always seek to tear down, wreck, destroy or liquidate anything or anybody blocking their path toward world domination. They cannot tolerate good will among peoples. That would mean independence, freedom to think and act, each on his own. They accord no such right to any people. They recognize no law, no restraint, save those they themselves impose to maintain and extend their despotic domination over other human beings.

General Matthew B. Ridgway

AIR FORCE TRAINING

LIEUTENANT GENERAL ROBERT W. HARPER

THE PILOT of the F-84 was in a tight spot. Flying along "Mig Alley" over North Korea he found himself closely pursued by several enemy jet fighters. When he attempted to jettison the wing-tip fuel tanks for added maneuverability, the tanks would not release. Within a split second the pilot struck upon a solution not to be found in any manual—he triggered every gun until the resulting vibration shook the tanks loose. As a result of this almost reflex action, he soon was back at his base—safe and able to report a victory.

Every veteran pilot knows that the ability to make such split-second decisions is one of the best forms of life insurance. It is not always an inherent ability; rather it must often be acquired by long, thorough training, followed by intensive practice until the skill is virtually instinctive. Pilots also know that they are part of a team. Not only do they work together with crews in flight; the air crews in turn depend on the guns, engines, electronic instruments and other equipment which is maintained by highly skilled ground crews.

It is the triple task of Air Training Command (ATRC) to provide the training for pilots and other flying officers, for crewmen, and for those who sustain the fliers aloft. Pilots and other flying officers are trained at several schools which offer a total of one hundred and thirty-five flying and technical courses. The Command also administers the Air Force Officer Candidate School for non-flying officers. Ground crewmen are educated in eight major career fields and classified according to skills under the new Air Force Specialty Code (AFSC).

Besides American pilots and airmen, the Command at present is training more than thirteen hundred students of friendly countries under the Mutual Defense Assistance Program (MDAP). Those representatives of practically every MDAP country are being taught the special skills required for the maintenance and operation of aircraft and equipment now arriving

LIEUTENANT GENERAL ROBERT W. HARPER, USAF, is Commanding General, Air Training Command.



Inspections of men and equipment precede the training flights of B-29 crews at Randolph Air Force Base, Texas.

U. S. Air Force Photograph

in their countries under the United States foreign aid program. The students are carefully selected for their ability to supervise and teach others when they return home. They are integrated into existing classes and receive the same training as the American airmen, through interpreters if necessary. (See "Advancing Mutual Security," June 1952 *DIGEST*.)

Fledgling pilots are trained by ATRC's Flying Training Air Force (FlyTAF). FlyTAF also trains navigator cadets at Ellington Air Force Base, Texas; aerial-observer bombardiers at James Connally Air Force Base, Texas; and advanced radar bombardiers at Mather Air Force Base, California.

Supervision of all crew training and graduate level courses is the responsibility of the recently activated Crew Training Air Force (CrewTAF). Bases assigned to CrewTAF include Luke, Moody, Nellis, Perrin, Pinecastle, Randolph, Tyndall and Wichita Air Force Bases.

The aspiring flier is carefully screened. He must have completed high school (for some time after World War II at least two years of college were prerequisite) and he must pass physical and mental tests followed by a final battery of aptitude tests. These last determine his future assignment as pilot, observer-navigator, radar or ground officer.

Those accepted for pilot training go to one of the ATRC's basic pilot training schools or to one of nine civilian contract schools which give the same training under ATRC supervision.

During the first four weeks at any of these schools, the potential pilot receives an introduction to cadet life and general military training, including military customs and ceremonies, drill and physical training. When the pre-flight period is completed, actual flight training begins in earnest. During the next twenty-four weeks candidates divide their time between ground school and flight; in all they are in the air for about one hundred and thirty hours. This period covers pre-solo instruction, visual flying, elementary night and day navigation, precision and acrobatic flying, and basic instruction in T-6 Texan or T-28 trainers. Students solo after an average of twenty-five flying hours.

This is a busy time. The average training schedule allocates 45 percent of each day to class instruction, 23 percent to personal details and meals, 30 percent to sleep—which leaves a meager 2 percent for recreation. Candidates spend a good deal more time—about two hundred and fifty-four hours—in ground school than in flying. Some of this time is spent in synthetic training devices which simulate flight conditions; the rest is devoted to

aircraft engineering, navigation, principles of flight, weather, radio, code work, radar, and flying safety.

Besides academic studies and flight training, candidates spend an additional three hundred and three hours in military courses, including drill, ceremonies and physical training, with great stress placed on leadership and discipline. Deficiencies here can lead to a cadet's elimination just as quickly as if he showed a weakness in flying studies.

Those who complete basic flying training are ready for advanced training. Some go to single-engine jet school, others to single-engine conventional school, still others to multi-engine school. Advanced schools also last twenty-four weeks. Courses include about one hundred hours in flight operation, weather and navigation and some two hundred and fifteen hours of officer training in military administration, military law—and still more leadership. In addition, the training includes some thirteen hours of actual flight.

Completion of advanced flying training leads to a commission as second lieutenant in the Air Force Reserve and status of full-fledged pilot. Yet graduates are far from being considered ready for the supreme test of their skills—actual combat flying. For that, they require further training.

Crew training is given at Luke Air Force Base, Phoenix, Arizona. Flying skill here is just part of the job. The new second lieutenants, having learned to fly the "gun platform," now are thoroughly trained in effective use of the guns themselves. During eight weeks at Luke AFB they fly eighty rugged hours of day and night transition, formation, acrobatic and instrument flying; they receive instruction in air-to-air and in air-to-ground gunnery and also in applied tactics. They also receive instruction in aerial attack, tactics, navigation, theater indoctrination, aircraft operations, armament equipment and systems, and ground attack. When this training is completed, pilots are ready to join a fighter squadron anywhere in the world.

Pilots designated for advanced multi-engine school go either to Vance Air Force Base, Enid, Oklahoma, or to Reese Air Force Base, Lubbock, Texas. Training there prepares them as bomber or cargo pilots. Crew training for multi-engine pilots is given at the B-29 school at Randolph Air Force Base, Texas; at the B-47 school at Wichita Air Force Base, Kansas; or at Pinecastle Air Force Base, Florida.

Fighter-bomber escort crew training is carried on at Nellis Air Force Base, Nevada. Three bases give an all-weather fighter-

interceptor course—Tyndall Air Force Base, Florida; Moody Air Force Base, Georgia; and Perrin Air Force Base, Texas.

ATRC also provides flying training in the Liaison and Helicopter School at San Marcos Air Force Base, Texas.

Non-flying administrative officers are trained at the Air Force Officer Candidate School at Lackland Air Force Base, Texas. Successful completion of this twenty-four week course earns the airman a commission as a second lieutenant in the Air Force Reserve. The curriculum includes administration, supply, management, leadership, military law, airdrome defense, intelligence, food service, effective expression and other subjects. The educational system here lays special emphasis on military bearing, personal appearance and self-discipline. Distinguished graduates, usually numbering 10 percent of a starting class of five hundred, are offered the opportunity to accept a six-month competitive tour of duty. Currently the School operates on a two class system, graduating about eleven hundred officers each year.

The basic education offered ground crewmen is just as thorough as that given to pilots. Many and varied skills must be taught to large numbers of men, all of which makes this a vast and complicated task.

The new career system for enlisted personnel is designed to start the new airman on his way up the ladder—a ladder that potentially can lead any recruit to the grade of Chief Warrant Officer in his chosen career field. The objective is to increase the effectiveness of the Air Force by having every single job done superlatively well.

To realize that goal, ATRC and the Human Resources Research Institute of the Air University have done and are continuing to perform a vast amount of research on the problem of getting the round pegs into round holes and so reduce misfit assignments to the vanishing point.

The neophyte airmen, whether enlisted or inducted, go to one of the three indoctrination centers at Lackland Air Force Base, Texas; Sampson Air Force Base, New York; or Parks Air Force Base, California. During the first week they undergo a series of tests to determine their aptitudes and potentialities in one of the eight major career fields—mechanical, clerical, equipment operator, radio operator, technician specialty, services, craftsman, electronic technician.

Students are organized into seventy-man flights. They rise at 0445, make beds, clean up the area, perform their particular barracks detail and have breakfast in time to start their duty



Classroom discussion of jet fighter tactics and flying maneuvers is an important part of pilot training.

U. S. Air Force Photograph

day at 0730. They continue in classes until 1630, with healthy portions of drill and calisthenics sandwiched between classroom and lecture hall. They learn the meaning of teamwork, an important part of their future. The flights march to class together, eat together, play together.

Each man takes tests to determine his aptitudes in all of the career fields; he then listens to a series of lectures and views exhibits which show the work performed in each career field. Each man then meets with a career counselor who has been specially trained for the job. Many airmen who have already reached a decision indicate their preferences, and if records of classroom work and results of the aptitude tests are favorable, the counselor can approve the choice.

Each man is informed, however, that the needs of the service must sometimes override personal wishes. Accordingly each man is asked to list two or more choices for a career. About 86 percent of the students are assigned to their first choice school.

While at the basic schools, which normally run for twelve weeks, promotion to airman third class is awarded in the seventh week to trainees who demonstrate proficiency. About 90 percent of the students attain this promotion. Following graduation, the young airmen are classified as AFSC 0010—basic airman—and assigned to advanced schools. At these schools they are given the opportunity to progress up the career ladder.

Typical of the advanced schools is the Radio Mechanic School at Scott Air Force Base, Illinois. The basic course, entitled Radio Fundamentals, lasts one hundred and fifteen academic days. Students spend about six hundred and sixty academic hours mastering the basic fundamentals of radio. These include forty-five hours of instruction in radio operation for mechanics and one hundred and ninety-five hours in basic electricity for radio operators. One hundred and fifteen hours are spent on electronic tubes and associated circuits including vacuum tubes, ninety hours on transmitters, thirty hours on antennae, ninety hours on receivers including construction, thirty hours on oscilloscopes and cathode ray tubes, and sixty in circuit analysis.

When the airmen finish the radio course—or any of the others—they have a thorough basic knowledge but are far from being qualified to work in the field. In the radio school students go on to one of two more advanced courses—Radio Mechanic, Airborne Equipment or Radio Mechanic, Ground Equipment. Both are forty-five academic days' duration. Upon completing the advanced school, the graduates are awarded a new AFC—this

time 30130. The first three numbers designate the career field, radio mechanic, in which the men have been trained; the last two numbers indicate the level of training, 30 designating the apprentice level. Each of the eight major career fields has its own three-figure identification number.

Those who graduate in the top bracket of their class and who have served four months time-in-grade as airman third class while in the advanced schools are promoted to airman second class. Graduates are then assigned to an Air Force Base anywhere in the zone of interior or overseas. Upon promotion in the field, the AFSC is raised to 30150, or senior level. This shows that the individual has mastered his chosen field sufficiently to work with a minimum of technical supervision.

Continuing with the radio technician career for illustrative purposes, there is still another top-level radio mechanics course of twenty-eight weeks open to those who have progressed to the 50 level and who have had at least a year in the field. While none of the subject matter is new, it stresses development of techniques presented in the earlier courses. Upon graduation the airman goes into the 71 classification, indicating that he has reached a high technical level in his profession—maintenance technician.

There still is another step in the enlisted rung of the career ladder, however. After further experience and training in supervisory subjects the enlisted man attains the 70 classification, indicating his competence in the supervisory field. Duties now call for supervising the work of several apprentices and some senior technicians. The job carries considerable responsibility and the man who holds it is recognized as an expert in his field. Under ideal conditions—and it has happened many times—the young airman who went through basic training only three years ago now can be in the 70 bracket with a rating of technical sergeant.

Both the pilot whose quick-thinking response saved himself when his fuel tanks failed to release, and the ground crewman who maintained the guns that got the pilot out of the predicament, are in large part products of Air Training Command schooling. Both, in their separate fields, have been trained as top-notch technicians. Both jobs, the Air Training Command feels, are of equal importance. They assure the Air Force, the United States and the free world, of a constant flow of highly trained men to safeguard freedom. Their superior training is writing the headlines over Korea.

DEVELOPING FIELD EQUIPMENT

COLONEL WILLIAM P. WITHERS

FORT KNOX, Kentucky, the site of the Army's Armored Center, is also the home of Army Field Forces Board No. 2—the board responsible for testing all new armored combat vehicles, other automotive equipment, and engineer and medical equipment of the field army.

A total of four such boards, originally known as Army Ground Forces boards, were created following World War II by merging the Army's many wartime development and testing agencies. These boards today operate under the direct supervision of the Assistant Chief of Staff for Research and Development, Office, Chief of Army Field Forces.

Board No. 2 was established in October 1945, combining the functions of the World War II Armored Board, Tank Destroyer Board, Landing Vehicle Board and Cavalry Board, in addition to several other responsibilities. At present the Board is responsible for development of military characteristics and the service testing of all automotive equipment of the field army, including amphibious vehicles and wheeled and track-laying armored combat vehicles; all engineer equipment of the field army, including amphibious engineer and airborne engineer equipment; antitank weapons and fire control equipment organic to vehicles; all medical equipment of the field army and maintenance and supply equipment and applicable procedures.

Thus, while one section of the Board is putting a tank through rigorous tests, another section may be occupied in evaluating the effectiveness of a new type splint or hypodermic needle. It is not unusual for one hundred and fifty to two hundred items of equipment to be undergoing tests concurrently. Eighty officers and a near-battalion of enlisted specialists conduct the tests.

The Board maintains five major testing sections—Combat Vehicles, Engineer, General and Special Purpose Vehicles, Main-

COLONEL WILLIAM P. WITHERS, *Armor*, is president of Army Field Forces Board No. 2, Fort Knox, Kentucky.



The tracks of this M46 medium tank are half covered as it traverses a deep mud pit on Board No. 2 testing grounds.

U. S. Army Photograph



A fifteen-ton truck in operation on the 60 percent slope during tests at Fort Knox.

U. S. Army Photograph

tenance and Supply, and Medical. The Combat Vehicles Section is primarily concerned with tanks and other armored vehicles. The Engineer Section tests such items as bulldozers, mines, bridges and cranes. General and Special Purpose Vehicles Section deals with trucks, tractors and jeeps. The Medical Section tests all types of field medical equipment ranging from splints and cots to ambulances and equipment designed for arctic or jungle use. Maintenance and Supply Section is responsible for logistical support of the Board and makes continuing studies aimed at reducing the time required for maintenance of various pieces of equipment.

Like the other three boards, Board No. 2 is not concerned exclusively with testing of equipment. Development of new items and improvement of existing equipment are equally important functions. More often than not, the idea for a new or modified item originates with the Board.

To illustrate the functions of the Board and to show its relation with other agencies, a hypothetical case is presented—an improved tank is needed to meet the challenge of a newly introduced enemy tank. Development follows an established pattern.

First, a statement of a military requirement for the tank is drawn up. Any individual, agency or echelon may originate this statement. Following approval by the Army General Staff, the Board is directed to prepare a statement of Military Characteristics (M/C). The M/C are not a list of technical specifications from which a model can be built; rather, they state in nontechnical terms the performance characteristics desired. Following co-ordination with field agencies and review by the Chief of Army Field Forces, the M/C are submitted through Department of the Army to the appropriate Technical Service, in this case the Office, Chief of Ordnance. A conference is then held between representatives of the Board and the Technical Service. Compromises, based primarily on technical and production factors, are reached and finally a technical committee establishes the project.

Throughout the design, mock-up and pilot model production stages, the Board, acting as Army Field Forces liaison with the developing agency, keeps in touch with progress of development and offers suggestions. Pilot models, when completed, are submitted to the developing agency for engineering tests and to the Board for service tests.

The Board draws up a test plan and circulates it to interested agencies for comment or concurrence. The plan includes from twenty-five to thirty-five special tests, each concerning a particu-

lar attribute or function of the tank or one of its components.

After the pilot model has been dismantled and every piece inspected, it is ready for field testing. The tests cover such points as adequacy of the electrical system, braking speed, hill climbing, operation in mud, acceleration, night operation, side-slope operation, fording, durability, turning and steering. Other tests are prepared for the turret and fire control system.

Testing site for the tank—and for other vehicles—is a thirty-five hundred acre area in one corner of the Fort Knox military reservation. Here a variety of terrain features—hills, streams, woods and flatland—have been modified to provide a series of obstacles designed to weed out all but the best of vehicular equipment. Within the area are cross-country courses, mud pits, a 60 percent slope, a creek for deep and shallow fording, dirt roads, paved roads and other features calculated to give vehicles the most comprehensive tests possible.

In braking, the tank must meet Interstate Commerce Commission vehicular standards. In hill climbing, it must be able to ascend and descend a graded and improved 270-foot, 60 percent slope and a graded but unimproved 40 percent slope, stopping and backing up at any point. It must also negotiate a 40 percent side slope. It must be able to cross mud pits, including one which the Board terms bottomless, and streams of various depths—the



An amphibious cargo carrier attempts to negotiate a 60 percent incline following a fordability test conducted by Board No. 2. U. S. Army Photograph



An armored infantry vehicle shows its ability to cross deep trenches on the Fort Knox test course.

U. S. Army Photograph

depth depending upon whether sealing compounds and coverings are utilized. If more than a small amount of water enters the interior, the tank fails the test. The engine, of course, must be waterproof.

Speed tests are of three types—low, in which the tank must prove itself capable of operating for long periods in support of infantry; high, in which it must negotiate a fifteen-mile concrete and macadam course at its predetermined maximum speed; and convoy, in which it makes a forced road march of many hours duration. Any overheating or vibration is carefully noted. Acceleration is checked on a level road with the performance of standard vehicles providing a basis of comparison. In night operation, such factors as suitability, visibility of exhausts, sound level and facility of operation are evaluated.

Ease of steering is tested on a staked-off zig-zag course. Turning must be in accordance with a predetermined minimum turning radius. Durability is checked by a two thousand mile test run on stretches of a cross-country highway and dirt road course. Fuel and oil consumption are calculated throughout. Factors affecting the crew's comfort and safety, such as heat, fumes, noise, construction hazards and adequacy of escape hatches are appraised. Communications equipment and availability of stow-

age space for ammunition, tools and the like are also judged.

In the turret and fire control tests, the tank gun is put through a number of trials designed to show its accuracy. The turret must be capable of being traversed full circle at a controlled rate in a few seconds. The dispersion error of the round itself, accuracy of fire control and gun laying equipment, and any obscuration are also noted.

Partial tests, if accelerated, can be made in sixty days. However, because of their complexity and the need for thoroughness, months are sometimes required to complete the tests of major items of equipment.

A test plan is set up for each piece of equipment. In the case of vehicles, the plan usually is similar to the one described, with changes only in such matters as speed and acceleration rate. If tests beyond the scope of the Fort Knox facilities are called for, the equipment is sent to the Arctic Test Branch at Big Delta, Alaska, or the Yuma Test Station at Yuma, Arizona. These installations are utilized by all four boards.

Once a service test is completed, the day-to-day records are reviewed and analyzed by the Board and a Report of Test is drafted. The report recommends either adoption "as is" or with modifications, retesting after modifications, or rejection of the equipment. The report is co-ordinated with interested field agencies and, following review by the Chief of Army Field Forces, is forwarded for action at Department of the Army level.

After production begins, the Board usually tests early production models in sufficient quantity to insure their suitability. Later modifications, if any, must also meet with its approval. Finally, the Board monitors performance of the equipment in the hands of the troops, initiates any necessary action for improvement and tabulates data on which to base Military Characteristics for a new model when the need for one arises. The process is largely continuous, as the Board constantly seeks to perfect already proven models.

The Board is staffed by officers well qualified for their assignments through extensive combat experience. Every officer in the Combat Vehicles section, for example, is a veteran of wartime service with an armored unit. Most of the noncommissioned officers assigned to the Board also are combat veterans. As a result, they know from practical experience what equipment is battle-worthy and their stamp of approval is an unconditional guarantee that it will perform with distinction in any future war.

COUNTERATTACK ON YELLOW JACK

MASTER SERGEANT W. F. FITZGERALD

A TRAIL of dead monkeys in the wilds of the Panama jungles, an isolated case of yellow fever, mosquitoes borne on prevailing winds—all of these pieces of a puzzle when put together by medical authorities spelled an anticipated outbreak of the dread "yellow jack" in Costa Rica.

Forecasts for appearance of the disease by late summer of 1951 were correct—almost to the day. Late in July 1951 yellow fever did appear in Costa Rica. To forestall its spread public health authorities of the little Central American republic had conducted mass inoculations in the cities, but the disease was proving more difficult to combat in remote rural sections. An epidemic now threatened.

So began another assault in the continuing campaign against yellow fever—a campaign waged ceaselessly since the United States took over the building of the Panama Canal early in this century. The first chapters in the battle against this scourge of the tropical regions had been written in Panama by Major Walter Reed and other pioneer United States Army surgeons. They had discovered that the disease, which had taken such a toll in human lives and suffering, was spread by mosquitoes acting as carriers or "vectors." This in turn led to an intensive program of mosquito control. Ever since, yellow fever has ceased to be a menace—but always it must be guarded against. The outcropping of an isolated case has required a quick mustering of forces to prevent its spread.

The latest outbreak of the disease in Costa Rica brought out the resources of the United States Air Force, plus all the modern methods of combating contagious diseases. As a result, new evidence was unearthed indicating that monkeys contract the sickness somewhere, somehow, in their jungle habitat. Apparently the disease then is transmitted by mosquitoes from monkey to

MASTER SERGEANT W. F. FITZGERALD, USAF, is on the staff of the Public Information Office, Albrook Air Force Base, Canal Zone.

San Jose, capital city of Costa Rica. There a base of operations was set up. Technical supplies were furnished by Servicio Co-operativo Interamericano de Salubridad Publica, a co-operative health agency managed by the Costa Rican Government and the Institute of Inter-American Affairs. Additional supplies were ferried from Albrook to Altamira by C-47's.

The versatile helicopter, capable of landing in confined areas, was able to penetrate to isolated jungle spots, reaching in a matter of hours villages that would take many days to approach by foot or horse. The very sight of the hovering machine had a reassuring effect on the natives, who in many places were in a state of near panic.

For eleven days the helicopter made its journeys, covering an area of six thousand square miles. Thirty-seven settlements and farms were visited. Another twenty-three missions were devoted to alerting villages so that farmers could assemble for the life-saving inoculations. All together, nearly a thousand men, women and children were given the serum.

No new deaths were reported. The battle against the epidemic had been won. When the mission was completed, grateful Costa Rican officials showed their appreciation to the men of Air Rescue Service. Unofficial medallion tokens and letters of appreciation were presented by Doctor Jose Cabezas, Costa Rican Minister of Health, to the crew of the helicopter. "In my opinion," said the Minister of Health, "this is the most effective kind of inter-American co-operation. It cannot help but be of material aid in further cementing relations between the people of Costa Rica and the United States."

And while the battle to eradicate the disease is far from over, added knowledge has been gained that will aid public health authorities in tracking yellow fever to its spawning ground. It still is not known whether monkeys in some manner contract the disease which is then spread by the vector mosquitoes—or if the mosquitoes pick it up from some other source and then infect a widening trail of the monkeys. At any rate, medical authorities still are keeping a continual lookout so that, with the outbreak of the first case, they may quickly launch the counterattack.

(NOTE: As this article went to press, word came from Albrook Air Force Base that doctors and health authorities were combatting another outbreak of yellow fever in the wild Indian country up the Bayano River, ninety miles east of the Zone.—Editor.)

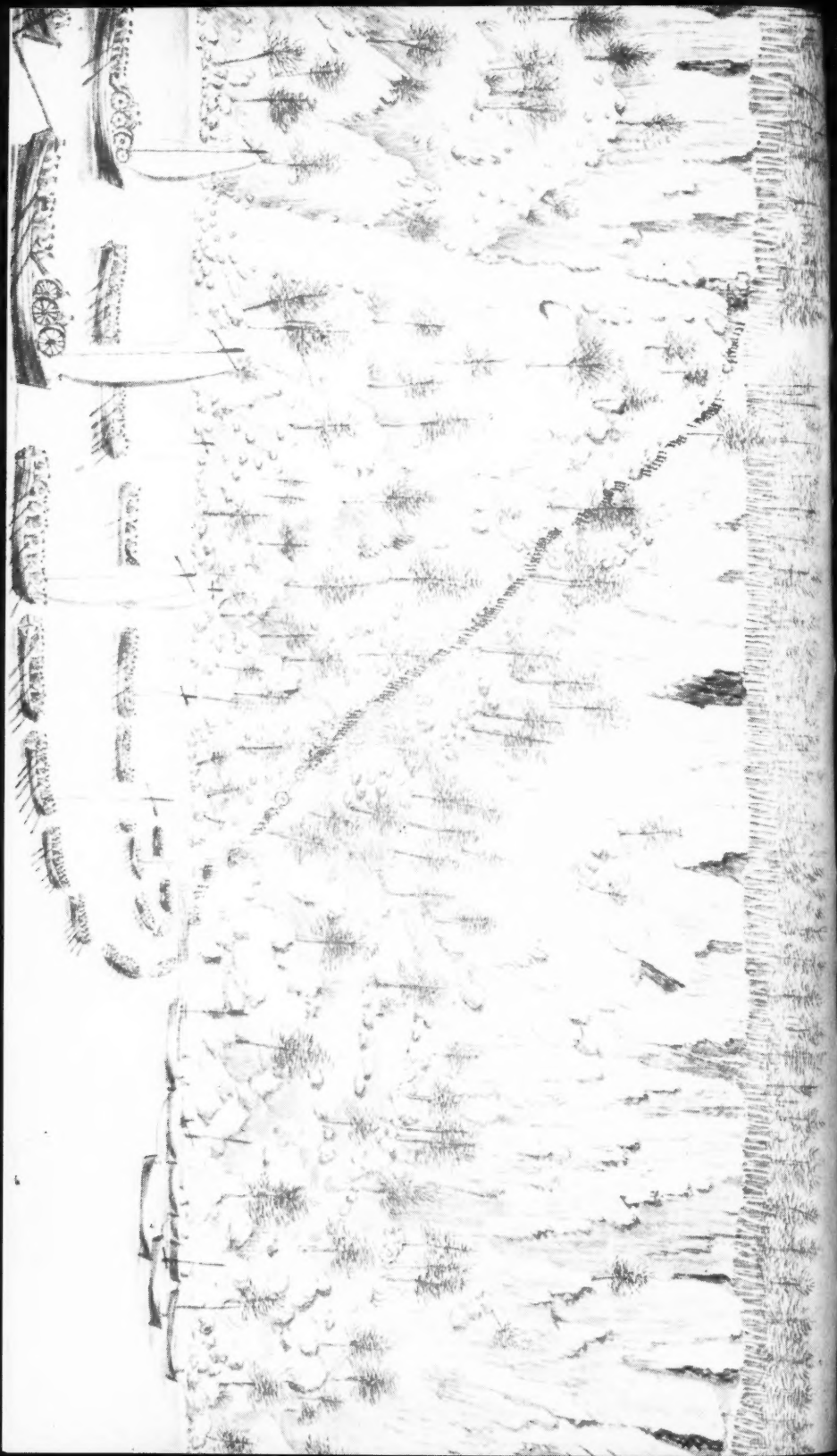
Landing of the British Forces in New Jersey

In the fall of 1776 General George Washington was attempting to hold the area around New York against a better trained and better equipped British force which enjoyed the advantages of naval superiority. On 11 October of that year the Continental Congress, against Washington's advice, had resolved that Fort Washington, on the northern tip of Manhattan Island, should not be abandoned. Subsequently the British general, William Howe, little by little isolated the fort and, on the morning of 16 November, attacked it with superior forces. The fort proved to be less defensible than Congress had supposed and Colonel Robert Magaw surrendered it that same afternoon.

About three thousand men, one hundred and forty-six pieces of artillery and large stores of ammunition fell into British hands, an almost too-heavy blow to the American cause. It is reported that Washington's eyes filled with tears as he watched, from Fort Lee across the Hudson, the flag of Britain unfurled over the fort that bore his name.

For once Howe did not delay. The second day after the capitulation he started twelve regiments (around five thousand men) under General Cornwallis across the Hudson River against Fort Lee. Cornwallis intended to approach the fort from the rear and take it by surprise but Washington foiled the scheme by abandoning the place before Howe could bottle up more of his tiny army. At Fort Lee his long, discouraging retreat across New Jersey began.

The scene on the back cover is reproduced by the Library of Congress from a watercolor, probably by Thomas Davies, in the Emmett Collection of New York Public Library. It depicts the landing of General Cornwallis' force on the New Jersey shore of the Hudson River and the start of the British attempt to overtake and destroy the American Army.



A
IN
D

Civ

P